Food Packer

The National Magazine of Production and Management

CANNING GLASSPACKING FREEZING

A Vance PUBLICATION

March, 1956

Man-of-the-Month
Vincent A. Davi

- **New Food Trends Bring New Problems** – *Page 20*
- **Keep The Convention Strong** – *Page 23*
- **Better Weight Control For Bigger Profits** – *Page 26*
- **Instruments To Control Quality** – *Page 30*

EVERY YEAR FOR 48 YEARS...

our Annual Refund checks have been mailed to Policyholders. These checks represent savings dividends on their fire insurance costs.

The 1955 savings distribution totaled

$1,539,490.20

Total savings to date have amounted to

$30,296,121.17

They have averaged 40% on customary insurance premiums.

If you are not sharing to the fullest extent in this annual cash distribution, let us show you how you can do so.

Canners Exchange®

LANSING B. WARNER, INC.

4210 PETERSON AVENUE • CHICAGO 30, ILL.

48 YEARS OF DEPENDABLE SPECIALIZED FIRE INSURANCE FOR FOOD PROCESSORS

IF...

IT'S PACKED IN A METAL PACKAGE

THEN

MORE THAN 55 YEARS OF METAL PACKAGING EXPERIENCE SHOULD MEAN SOMETHING TO YOU

NOW..

IS A GOOD TIME TO DO SOMETHING ABOUT

Heekin PRODUCT PLANNED cans

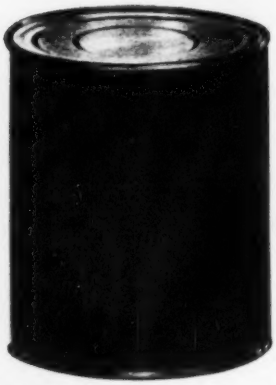
since 1901

THE HEEKIN CAN CO. *PLANTS IN OHIO, TENNESSEE & ARKANSAS—SALES OFFICES; CINCINNATI, OHIO; SPRINGDALE, ARKANSAS*

Only UNIFORMLY CONTROLLED CAN AGITATION GIVES FAST AND EVEN HEAT PENETRATION

Compare!

Conventional non-agitation type cooking, where heating is by *conduction*, is both slow and uneven. This type of cooking makes it necessary to overheat the product at the can's periphery in order to reach sterility at the center of the can. As a result, complete uniformity of product quality within the can is seldom possible.



This superior Quality Control has made FMC "Sterilmatic"* the standard of processing equipment for finer canned foods

Within the "Sterilmatic" Continuous Pressure Cooker every can is cooked *evenly* and *exactly alike* through the combination of individual can rotation and agitation of the product within the can. Of course this rolling agitation and the consequent "basting" action depends on the consistency of the product. But the important point is that this is *induced convection heating*, which increases the rate of heat penetration, keeps cooking absolutely uniform, provides for the precise processing control you need to maintain consistently high standards of product quality.

When you compare the process and compare the results, you'll sooner or later replace with an FMC "Sterilmatic" Continuous Pressure Cooker and Cooler. So write today for full information, or call your nearest FMC representative.

NOTE: For products requiring very little agitation a special type of reel and spiral mechanism is provided.

*Trade Mark — Reg. U. S. Pat. Off.

Write for free booklets!

"The Sterilmatic Story" shows what this equipment can do for your operations. "Sterilmatic Facts" includes all technical data and specifications of equipment.

FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Division

General Sales Offices:

WESTERN: SAN JOSE, CALIFORNIA **EASTERN:** HOOPESTON, ILLINOIS

Food Packer

March 1956

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Pre-cooked, packaged, ready-to-eat foods that were non-existant 10 years ago have changed and enlarged FDA duties.

Better Weight Control For Bigger Profits **26**
An expert in scales and weighing procedures gives proof that food processing plants can save substantial amounts by closely watching weights and measures.

Instruments To Control Product Quality **30**
Dr. Wilbur A. Gould reviews and explains modern quality control laboratory equipment and policy and points out importance of modern equipment and training.

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Events To Come

March 5. Tennessee Frozen Food Association, annual meeting, Peabody Hotel, Memphis.

March 6. Tennessee-Kentucky Canners Association, annual meeting, Peabody Hotel, Memphis.

March 6-9, National-American Wholesale Grocers Association, annual convention, Palmer House, Chicago.

March 15-16. Southwest Research Institute, Symposium on Food Physics, Plaza Hotel, San Antonio, Tex.

March 23-24. Utah Canners Association, annual convention, Utah Hotel, Salt Lake City.

March 26-27. Canners League of California, annual meeting, Santa Biltmore, Santa Barbara, Calif.

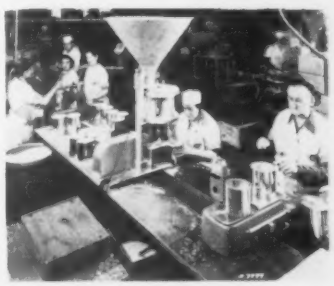
April 6. National Pickle Packers Association, spring meeting, Drake Hotel, Chicago.

April 16. Conference on Problems of Extraneous Matter in Foods, Syracuse University, Syracuse, N. Y.

May 11-12. Pennsylvania Canners Sales Clinic, Pocono Manor, Pa.

May 16-20. National Materials Handling Exposition, Amphitheatre, Chicago.

Front Cover



Scales play an important part in any food processing plant. Our cover picture this month shows soup ingredients being weighed. Article on weights, scales and measures appears on Page 26.

CONTROL IS

Plant No. 3 — Winchester, Indiana

Plant No. 5 — Connellsville, Pennsylvania

Plant No. 6 — Salem, New Jersey

Plant No. 7 — Jacksonville, Florida

Plant No. 8 — South Gate, California

Plant No. 9 — Toronto, Canada

Plant No. 15 — Connellsville, Pennsylvania

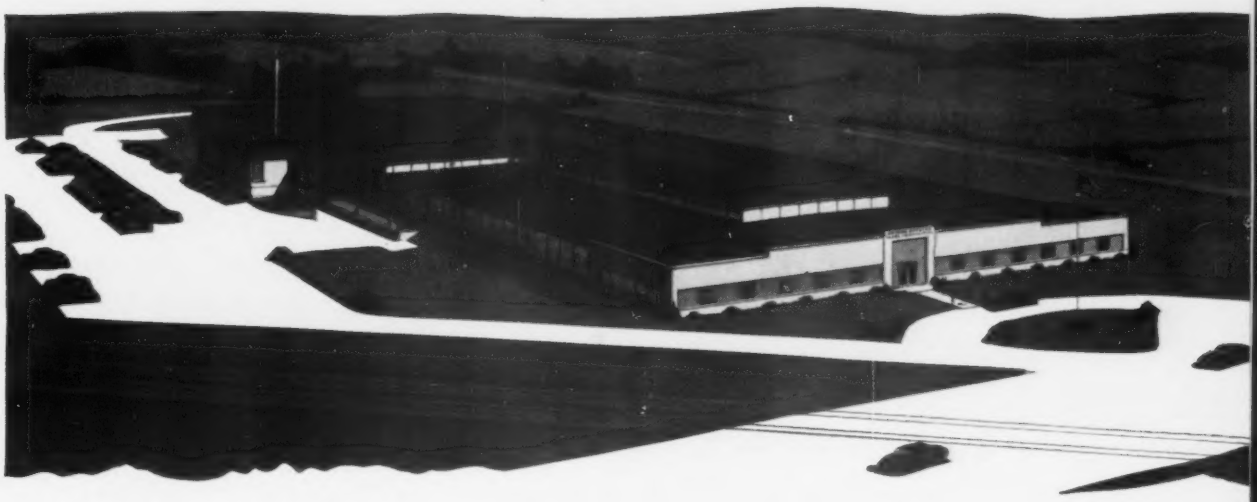
Carr-Lowrey Plant — Baltimore, Maryland

Swindell Plant — Baltimore, Maryland

Maywood Plant — Los Angeles, California

ALL-IMPORTANT

with Anchor Hocking!



Package Engineering and Research Laboratories — Lancaster, Ohio

EACH of Anchor Hocking's ten glass container and closure factories maintains a modern, completely equipped laboratory of its own for quality control purposes of raw materials and finished products. The Package Engineering and Research Laboratories at Lancaster, Ohio, serve as a control center for all standards and tests.

From the selection of all raw materials used to the final production line inspection, Anchor Hocking employs literally hundreds of exacting controls, tests and checks daily. And all this is done for just one reason . . . to provide you with uniform, high quality, dependable Anchorglass® containers and Anchor® metal and molded closures that will give you high-speed, dependable production and protection.

ANCHOR HOCKING

GLASS CORPORATION *Lancaster, Ohio*

ANNOUNCING

The Opening of Competition for the

DODGE & OLCOTT, INC.

annual award for outstanding achievement in the

Meat Packing Industry

to be presented during the 1956 meeting of the American Meat Institute

Award consists of $1000 and a gold medal, and competition is open to any member of the industry, either active or closely associated, who has made a definite contribution to the growth and general welfare of the meat packing industry as a whole.

Nominations may be made in all areas of RESEARCH, OPERATING or ENGINEERING, and there are no restrictions as to age, sex or nationality.

A copy of the rules and an entry blank will be mailed on request. Nominations close on August 1, 1956.

Essentially for you

D&O ESTABLISHED 1798 ®

OUR 157th YEAR OF SERVICE

DODGE & OLCOTT, INC.

180 Varick Street, New York 14, N. Y.

Sales Offices in Principal Cities

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • FLAVOR BASES • DRY SOLUBLE SEASONINGS

SWIFT'S REZALAP RESIN LAP END PASTE

. . . for the GO you need at the speed you feed.

The quick-setting properties of a true resin adhesive have been artfully combined with the non-staining, smooth machining qualities of a dependable lap paste in Swift's new resin lap end paste — REZALAP.

That's a welcome combination if you're chasing profits with speed — and more so if you're looking for *top* efficiency from your investment in high speed lines. But speed isn't the only advantage of Rezalap. You can depend, too, on its adaptability to a variety of paper stocks . . . its smooth workability for clean, long mileage runs without stringing or staining.

A trial in your own plant is our best recommendation, *your* best proof that Rezalap has the *go* you need for profits from speed in modern can labeling. Write for details and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

DON'T OVERLOOK

. . . the many benefits offered by these Swift-Quality packaging adhesives.

From labeling, to shipping, to *easy* opening — Swift *serves* packaging with convenient, courteous service from 19 plants.

HOT PICK UP GUMS
Resin-based for instant grab.
In four grades to meet your temperature and speed requirements.

EASY OPEN ADHESIVE
A snap breaks the seal.
Your customers deserve it.

Swift
101 ST YEAR

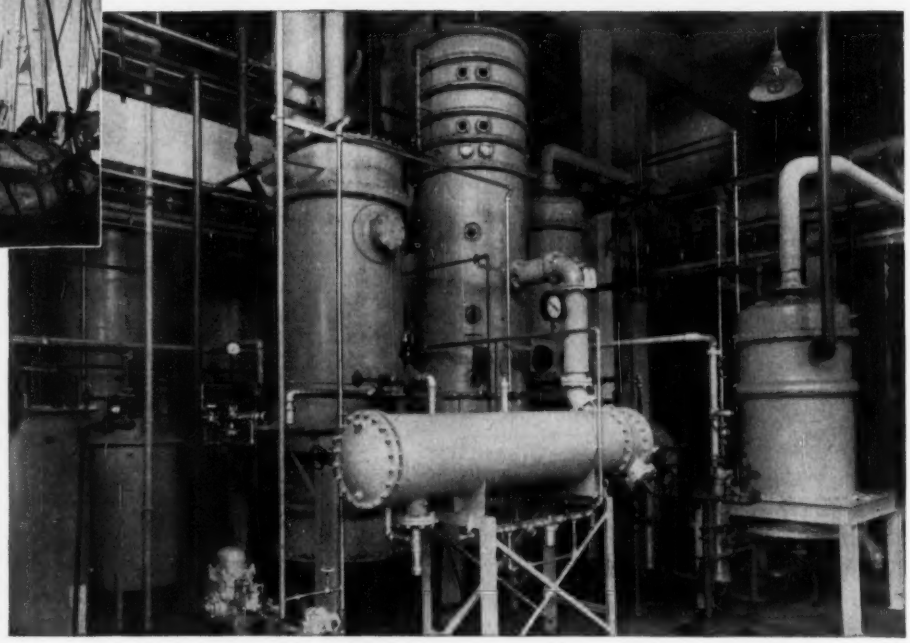
To Serve Your Industry Better

SWIFT & COMPANY

ADHESIVE PRODUCTS DEPARTMENT
4115 PACKERS AVE. • CHICAGO 9, ILL.

A-20

Spice Shipments are not always the same...



BUT CONTROLLED EXTRACTION ASSURES UNIFORMLY PURE, POTENT PEPPER FLAVOR IN SOLUBLIZED Pepperoyal®

Pepperoyal is no ordinary soluble pepper. Use the same amount of Pepperoyal in every batch of your product, and every batch will smack of the same pure pepper flavor.

True, it is processed from prime quality pepper berries. But, its real quality distinction originates in the Griffith laboratories. The potency, purity and uniformity of pepper flavor in Pepperoyal is controlled by our exclusive process of extraction.* It assures you of the same flavor quality in every shipment of Pepperoyal, or any of Griffith's Solublized Seasonings.

A real contribution to the flavor control of your products! Let's talk about it.

*Patent Applied For.

THE Griffith LABORATORIES, INC.

In Canada — The Griffith Laboratories, Ltd.

CHICAGO 9, 1415 W. 37th St. • NEWARK 5, 37 Empire St. • LOS ANGELES 58, 4900 Gifford Ave. • TORONTO 2, 115 George St.
Laboratorios Griffith do Brasil, S.A.—Caixa Postal 300 Mogi das Cruzes, Est. S. P., Brasil

FOR FANCY PACKS THAT BRING REPEAT BUSINESS

PLANT FERRY-MORSE SEEDS

BEANS, BLUE LAKE STRINGLESS FM-1 ▶

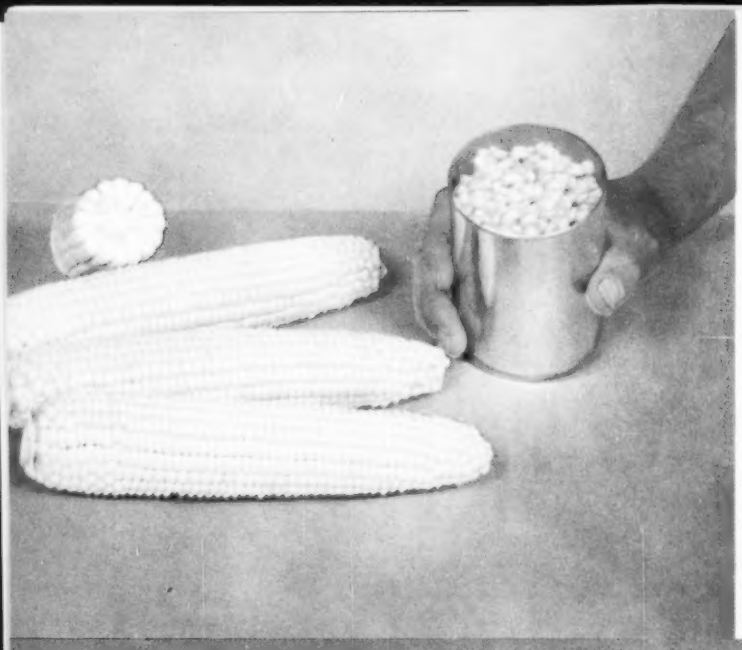
- A robust pole bean, stringless at all stages
- Thick, uniformly green flesh with no white around seeds
- Heavy yield of straight pods 5" to 5¾" long
- Highly resistant to Common Bean Mosaic

These are only some of the many reasons why buyers are willing to pay premium prices for Blue Lake Stringless FM-1 packs. This bean is a good example of how F-M breeders tailor-make varieties to suit critical canning and freezing needs . . . and consumer preferences.

◀ BEANS, PROCESSOR

- White-seeded bush type, resistant to Common Bean Mosaic
- No cavity around seed in mature pod
- High yield of round, smooth, stringless medium-green pods
- Clear liquor color

Processor is the end result of hundreds of crosses, selections and trials by Ferry-Morse breeders to develop a white-seeded bean that would meet the needs of all kinds of processors. It makes a high percentage of small sieve sizes.



◀ SWEET CORN, F-M CROSS
(ForeMost Y-1)

- High cut-off percentage, bright, golden color and high sugar
- 8″ to 8½″ ears with 14 to 16 rows of deep, narrow kernels
- Wilt-resistant plants hold ears high
- Heavy, concentrated, early yield

From an experimental hybrid to our most popular canning and freezing variety in just six years . . . that's the record of F-M Cross. Why? Because it grows well, handles well, sells well. Packed in convenient 50-pound rodent-repellent bags.

BEETS, DETROIT DARK RED ▶

- Solid blood-red color doesn't fade in processing
- Smooth, round shape . . . small crown
- Firm flesh texture . . . fine-grained
- Superior for all packs . . . sliced, diced or whole

We originated this variety, and it is still the leader after sixty-four years because of a continuous program of careful selection for still higher quality and still greater productivity. We offer two strains—also Perfected Detroit. Ask us which one suits your conditions best.

F·M

1856-1956 OUR FIRST 100 YEARS

For one hundred years the Ferry-Morse brand has been synonymous with top-quality vegetable seeds. As we start our second century, more and more of our research is being dedicated to the specialized needs of the processing industry.

You want fancy packs that will bring (1) premium prices and (2) repeat business. Ferry-Morse varieties are tailor-made . . . out of long experience . . . to give you exactly those results. Superior F-M varieties can help make this a banner year for you. For full information and prices on our complete line of processing varieties, call us today.

FERRY-MORSE SEED CO.

Detroit, Michigan • Mountain View, California
Los Angeles • Memphis • Harlingen • Tampa

Industry Names and News

Jo Parks has established a service as technologist for food processors at 659 Peachtree St., N. E., Atlanta, Ga. The service includes development of new products; re-development of present formulas; conversion of problem by-products into saleable foods; and testing of competitive goods.

W. F. Filz

R. K. Jones

William F. Filz, Hood River, Ore., is the new director of research for *National Cranberry Association.* The research laboratory is located in Hanson, Mass., headquarters for the national cooperative's processing plants.

R. K. Jones has been appointed merchandiser for frozen food packaging of *Marathon Corporation.*

Charles B. Browne has been appointed west coast sales representative of the packaging materials service division of *Milprint, Incorporated.*

Ernest A. Oliver has retired as general manager of the *Economic Machinery Division* of the *Geo. J. Meyer Manufacturing Company* after 25 years' service.

R. J. Kommerstad has been selected "Salesman of the Year" for The Diversey Corporation. The award carries with it an all-expense paid tour of the Caribbean for Mr. and Mrs. Kommerstad.

Wilbur Jackson has been appointed general manager of the Grayson Controls Division of *Robertshaw-Fulton Controls Company.*

Alton L. Gray has been promoted to assistant general sales manager of the *Pfaudler Company,* Rochester, N. Y. At the same time, **Edgar N. Fox, Jr.** has been named Rochester district sales manager, replacing Mr. Gray.

A plant expansion of 50,000 sq. ft. has been announced by the *Simplicity Engineering Company,* Durand, Mich.

Frank Guerena has joined *Western Waxed Paper Division, Crown Zellerbach Corporation,* as sales representative in the central California territory.

Elbert M. Palmer has been named president of the *Kewanee Boiler Division* of *American Radiator & Standard Sanitary Corporation.*

Bill J. Smith will represent the *Pennsylvania Salt Manufacturing Company's* B-K Department in Louisiana and southern Mississippi, with headquarters in Brookhaven, Miss.

Joseph B. Kerr, assistant sales manager of the eastern operation of *Food Machinery & Chemical Corporation's* canning machinery division at Hoopeston, Ill., has retired after 42 years' service with the company.

J. Morningstar

Dr. Crosby

J. B. Morningstar has been elected a vice president of *Morningstar, Nicol, Incorporated.*

Dr. Edwin A. Crosby has been appointed assistant director of the *National Canners Association's* raw products research bureau.

The *National Association of Frozen Food Packers* has announced three new packer members: *Temple Frosted Foods, Incorporated,* 454 Berry St., Brooklyn, N. Y., packer of Chinese frozen foods; *Edward C. Cutting, Incorporated,* Bank Building, Union, Me., packer of frozen blueberries; and *Brock & Company, Inc.,* 420 E. Erie Ave., Philadelphia, packer of frozen french fried potatoes.

The board of directors of *Tri-Valley Packing Association* re-elected the following officers at its recent San Francisco meeting: president, **Edgar Jackson;** vice presidents, **George Johnson** and **Franklin Beard;** treasurer, **Karl E. Jankowski;** secretary, Laurie L. Lehtin. Extensive plans for the 1956 pack were laid. Capital expenditures for new buildings and equipment were approved for close to $500,000. An increase in the tomato and Elberta Freestone peach packs was approved.

Ernest L. Pope has taken over the direction of all plant operations for the *Jan-U-Wine* line of Chinese foods.

George B. Hamilton has been elected vice president in charge of *International Minerals & Chemical Corporation's Ac'cent International division.*

L. H. Hogue has been transferred from *Dole Hawaiian Pineapple Company's* California production division in San Jose to its new *Paulus Brothers Packing Company* subsidiary in Salem, Ore.

H. L. Janovsky

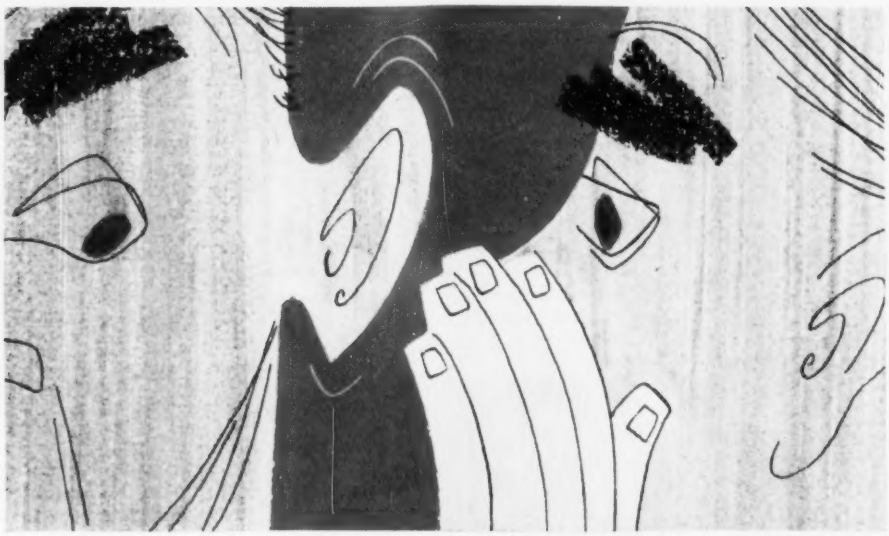
L. Ylvisaker

Harold L. Janovsky has been appointed director of the flavor division of *Dodge & Olcott, Incorporated.*

The following staff changes have been announced by *Continental Can Company:* **L. Ylvisaker** has been promoted from director of staff for the metal division, in New York, to general manager of the metal division research and development department, Chicago. **E. L. Hazard,** now general manager of the northeastern district of the eastern division, will become director of staff. **W. K. Neuman,** now general manager of sales, has been appointed manager of new products. **R. S. Hatfield,** now general manager of the north central district of the central division, Chicago, is appointed general manager of sales. **R. D. Heaviside,** formerly district sales manager in Baltimore, has been appointed general manager of the northeastern district, New York; **S. M. Bixler,** previously plant manager at Harvey, La., becomes general manager of the mid-eastern district, Baltimore; **J. S. Devlin,** formerly Houston district sales manager, is now general manager of the southeastern district, New Orleans. In the Pacific division, **C. F. Marquard,** previously manager of production engineering for the central division, has been named general manager of the south Pacific district, San Francisco; **J. W. Broomhead,** heretofore plant manager at Pittsburgh, has become general manager of the north Pacific district, Portland.

IT'S NO SECRET!

In fact, it's easy to get uniform flavor for less money!



Morton can help you improve flavor control with better salt, better salting methods

To insure better, more uniform flavor and quality in processed foods, canners, packers, and processors use Morton '999' Salt.

For Morton '999' is a low-cost, high purity salt . . . free from bitter calcium and magnesium compounds that can spoil flavor. '999' is always 99.9% clean, pure sodium chloride; exceptionally low in the objectionable trace metals, copper and iron.

High purity Morton '999' Salt:

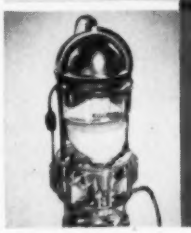
- gives a milder, more uniform salt flavor to prepared and canned meats . . . reduces "spot" color defects due to salt impurities.
- minimizes the "toughening" effect on peas, corn and beans of all kinds, due to calcium impurities in common salt . . . gives pure, clear brine for olive and pickle packs.
- requires 33% less storage space (due to its compactness) than the same amount of flake salt.
- does not contain insolubles and impurities found in Rock Salt.

For more information about Morton '999' Salt, the Morton Model-E Brinemaker, or the Bulk Salter, write:

Morton offers accurate salting methods to save time and money

The Morton Model-E Brinemaker is specially designed to produce up to 800 gals. of brine per hour from readily-available '999' Salt. No space-wasting storage tank is needed, and high-purity '999' Salt means no shut-downs for cleaning out sludge or impurities.

48" high, 36" diam. (not available on West Coast)



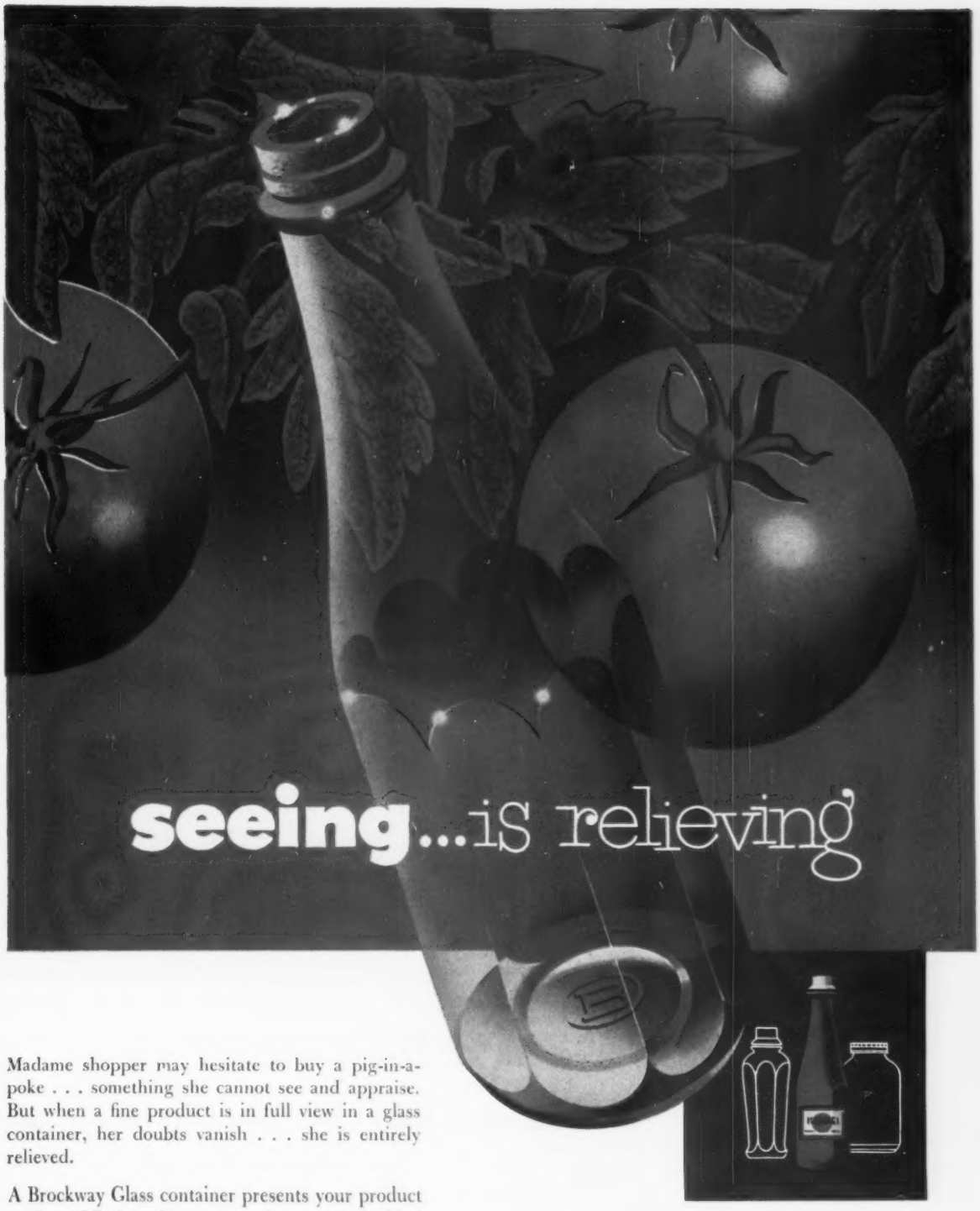
The Bulk Salter Machine dispenses '999' direct to can lines. The Bulk Salter accurately salts up to 400 cans per minute—if no can is present, no salt is released. Will dispense '999' Salt and spices, M.S.G., etc. Machine can be filled and supervised by unskilled labor.

40" high at tallest setting

MORTON SALT COMPANY

INDUSTRIAL DIVISION

Dept. FPa-3, 120 So. La Salle Street, Chicago 3, Illinois



Madame shopper may hesitate to buy a pig-in-a-poke . . . something she cannot see and appraise. But when a fine product is in full view in a glass container, her doubts vanish . . . she is entirely relieved.

A Brockway Glass container presents your product to the public in a showcase . . . it presents the kind of appetite appeal that sells on sight . . . it is an effective salesman at the point of sale.

Brockway makes the best glass containers in the world . . . and a friendly, cooperative organization is behind every order, large or small, to assure the perfect packaging results you have every right to expect.

BROCKWAY GLASS

COMPANY, INC.

Brockway, Pennsylvania

Muskogee, Okla. Lapel, Ind.

Prescription • Pharmaceutical • Proprietary
Beer • Carbonated Beverages • Liquor • Food

Meet three super-salesmen...

These three Canco containers for frozen foods

IN THE PICTURE up above you see the six-ounce and the brand-new 12-ounce cemented side seam cans, pioneered by Canco—and a composite container with Canco's exclusive opening feature. They're worth thinking about.

The solderless cans permit lithography *all the way around*. That means a more attractive, more eye-catching package. And of course, they store easily and meet all the rigid requirements a frozen food packer exacts of a container.

The composite package is designed for automatic filling and closing. And its unique and exclusive opening feature makes consumers mighty happy . . . keeps them coming back for more.

AMERICAN CAN COMPANY

can help you boost sales in 1956 !

All of these containers are beautifully lithographed to make your products more attractive . . . more appetizing . . . *more saleable.*

★ ★ ★

Bring your container problems to Canco . . . where imagination and "know-how" work together to produce tomorrow's packages.

COME TO

CANCO

FIRST !

New York • Chicago • San Francisco

HOW'S YOUR CANNING I.Q.?

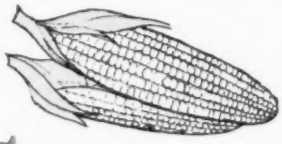
Do you know that...

Peas

have tender skins, and contain pectins? When a salt having more than 150 parts of calcium and magnesium per million parts of salt is added to peas, it toughens their tender skins, and down-grades their quality.

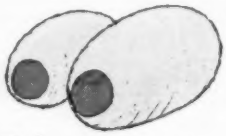
Beets

contain oxalate? When calcium and magnesium impurities exist in a salt, they react with the oxalate to form calcium and magnesium oxalate. This is left as an unattractive, white deposit on the beets.



Corn

is high in sulphur? Copper and iron impurities in a salt react to give corn an unsightly dark brown or black color. These impurities also react with vegetable fats to cause rancidity and off-flavor.



Olives

contain olive oil and tannins? When excessive calcium is present in a salt, calcium oleate, a soapy, white deposit is formed. The tannins combine with the calcium to create a dark-colored brine.

Beans

like peas, contain pectins? They taste best when tender. But when calcium and magnesium impurities exist in a salt, the bean skins harden. Result? Choice-quality beans are down-graded one or more grades.

Spinach

contains oxalate? When calcium and magnesium impurities are present in a salt, an unappetizing white substance forms on the spinach. The result is decreased customer satisfaction, and down-grading.

So why let impure salt down-grade the legumes you pack?

Use Diamond Crystal Flake Salt...it will help you get highest quality and profits from your product!

- **Diamond Crystal Flake Salt is low in calcium and magnesium impurities**—its higher uniform purity produces a true salt flavor that enhances the natural flavor of raw vegetables!
- **Diamond Crystal Flake Salt is low in heavy metal contamination**—has less than 1.5 parts per million of pro-oxidants copper and iron!
- **Diamond Crystal Flake Salt is highest in cleanliness**—has the lowest insoluble content of any canning salt. It's the cleanest ingredient you can buy!

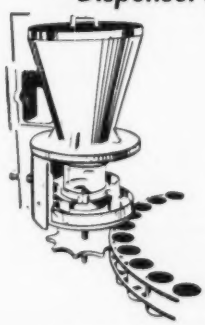
Start using Diamond Crystal Flake Salt in your operation right away! Available in a variety of screenings.

DIAMOND CRYSTAL FLAKE SALT

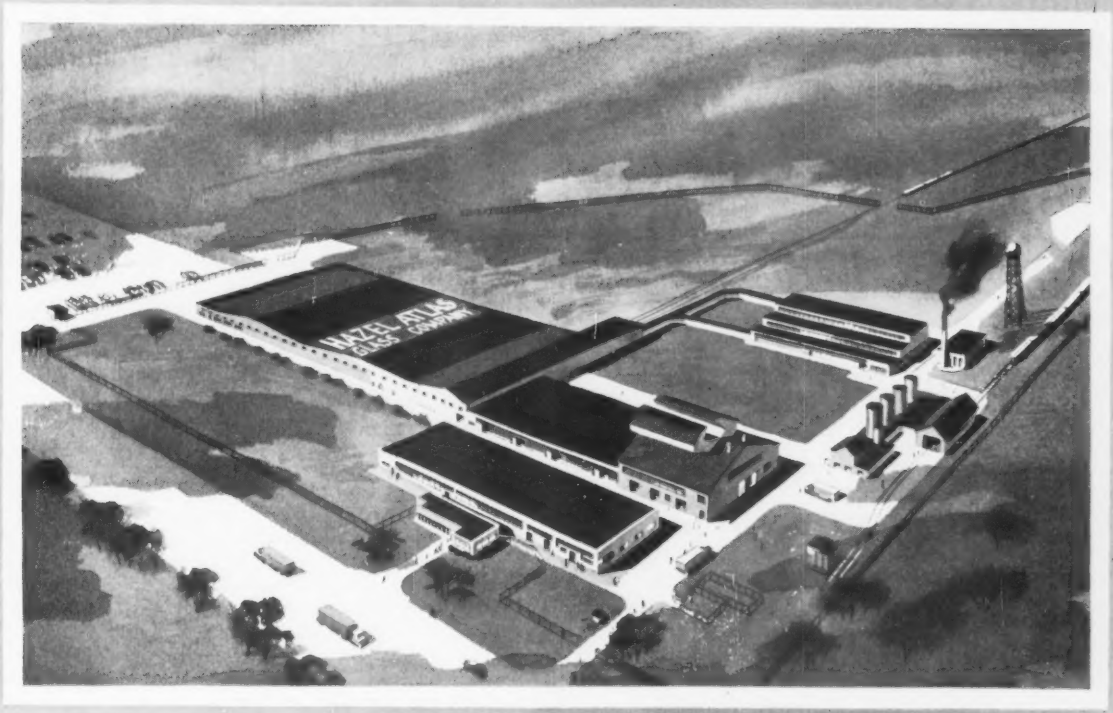
America's Largest-Selling High-Grade Salt!

For further information, write to:
Canning Dept., Diamond Crystal Salt Co., St. Clair, Michigan

NEW! *Diamond Precision Dispenser!*



This accurate, new automatic salt dispenser is an engineering triumph. It deposits just the right amount of salt in each can *every time*. Never misses! Eliminates tablet burns, too! Send for full information today!



"Progress Pictures"

Two different pictures, but they complement each other.

The new factory, now under construction at Plainfield, Ill., is indicative of HAZEL-ATLAS' continuing policy of greater service. But all H-A efficiency, quality control and design must add up to just one thing—and here's where the second picture comes in.

Our glass containers must be the welcome carriers of your products into the home. They must be selling showcases.

Each day more packers are finding that **H-A means Home Approved.**

HAZEL-ATLAS GLASS COMPANY, *WHEELING, WEST VIRGINIA*

MORE AND MORE

Industry Leaders Save With

CELLU-SAN®

GLENN E. KNAUB
Vice President
THE P. J. RITTER CO.
Bridgeton, N. J.

A simple dip in Cellu-san has solved the problem of excessive box and hamper breakage.

Men who purchase hundreds of thousands of harvesting boxes and hampers each year specify Cellu-san treatment — because it reduces breakage, cuts repair and replacement costs, controls contaminating mildew and stabilizes tare weights.

We urge you to write today for the 8 page illustrated brochure which tells the Cellu-san story.

Cellu-san

The first and only water-repellent wood preservative developed expressly for the food industry.

DIVISION OF DARWORTH INC., SIMSBURY 1, CONN.
Western Sales Office, P. O. 1422, Palo Alto, Calif.

Washington and You

Robert Y. Kerr, Washington Editor

New Food Trends Bring New Problems To FDA

At a Washington luncheon, launching the celebrations of the Golden Anniversary of the passage of the Food & Drug Act of 1906, Commissioner George P. Larrick, Food & Drug administrator, described in detail some of the changes in food marketing and hence, in the duties of the FDA.

He spoke especially of the trend toward pre-cooked, packaged, ready-to-eat foods. About one-third of present grocery sales involve items that didn't exist 10 years ago. About one-half of these items were introduced since 1929. The number of such new items is now multiplying more rapidly than ever.

"Based upon our observations," Mr. Larrick commented, "I can predict that the housewife of the future will practice the art of cooking only occasionally – as a hobby. These pre-cooked and packaged foods require reheating; therefore, the only skill necessary is to be able to read the directions on the package pertaining to oven temperature and the length of time the food is to be exposed to the heat. Or, as Arthur Lynch of the Folding Paper Box Association says, 'Meal preparation will consist of taking a packaged dinner out of the refrigerator and putting it into the oven.' Mr. Lynch further predicts that in the near future the wall-type refrigerator, designed to hold these packaged dinners, will be the most important piece of equipment in the American kitchen."

Some domestic science editors, we note, are reluctant to predict that heat-and-serve foods will probably replace the old fashioned home-cooked dinner with the crusty, spicy aroma that emits from the kitchen and wafts its way through the entire house. Viewing the situation in that light, there is still a place for the artist who cooks as a hobby or for the housewife who has time. But these days – in Washington, for example – an increasing number of women work in offices. They have neither the time nor the energy to start with elementary factors and produce something comparable to grandma's memorable dinners.

Trend Problems

This new trend is with us and it presents a good many new problems to the FDA. It involves additional steps and new materials now not known as food factors; new chemical additives that will prolong shelf-life of processed and pre-cooked foods. The safety and wholesomeness of these processes, as well as materials and additives, must be determined. This involves further developments in food chemistry and nutritional science. Nutritional and medical sciences already have resulted in producing a younger generation that is larger and healthier than their fathers were at the same age. Here's a significant fact: – School people report that children, from kindergarten up through the grades, are so much more developed than their predecessors of only a few years ago, that the desks and seats that were ample in size in the

1940's will not now comfortably accommodate the present occupants.

Experimental Atomic Field

There is another subject in the food field that is demanding intensive study. It is the use of atomic radiation in the preservation of food; also in the use of the same power, in varying amounts, to produce mutations in food plants and better insecticides and fungicides.

Despite the fact that this experimentation is still in its infancy, many important discoveries have been made. Some 40 college experimental farms and many more Atomic Energy Commission projects are working on a substantial number of studies in applying atomic energy to agricultural uses. For example, an experiment involving tons of potatoes exposed to irradiation is now in progress. Scientists are fast coming to the aid of growers and grocers, to save the latter from financial loss inflicted by potato spoilage. There are devices now being developed for irradiating potatoes as they are dug. These machines are not intended for the farmer who raises a patch of potatoes for his own family, but rather for the commercial grower. Preliminary trials indicate that irradiated potatoes have a longer life in storage (experimentors are aiming at a year) without change in appearance or taste. The main current tests are intended to check costs and also the effect of this radiation on the tubers from the time they leave the ground until they are eaten months hence.

Test Results

Most of the experiments performed under the auspices of the AEC involve tests on many kinds of food of sterilization by radiation. Tests have proved that irradiated foods can be eaten without danger of toxic effects. They also have proved that the shelf-life of foods can be materially extended. Further indications are that certain kinds of food are better adapted to such treatment than others. This signifies that further experimentation is needed. No matter how safe it may be, no one is interested in eating food that tastes like a vulcanized overshoe. Sterilization requires doses of radiation that numbers into millions of roentgens. A dose this large may result in chemical changes and alterations in taste and appearance. The radiation used on potatoes, for example, is low intensity – from 15,000 to 30,000 roentgens – which does not have these unfortunate results.

Radiation Future

The armed forces are very interested in these multiple food experiments, and the Quartermaster Corps contract for a couple billion dollars worth a year. If these preservative experiments prove successful it will reduce the cost of refrigeration and make possible less frequent restocking of distant posts and war vessels. The benefits these processes would have in commercial food distribution and storage are obvious.

This does not include all the possible atomic benefits probable in the fields of agriculture and food distribution. Radiation is being used to produce permanent changes, properly known as mutations, in farm-crop plants; shorter corn stalks that will stand up in wind storms and that will produce more ears per stalk; peanuts, which the experimentors believe, will produce 33-per cent larger yields; oats and wheat resistant to rust. Radiation also is being used directly to combat insects. Lastly, of immediate importance, radiation has proved to be a valuable exterminator of screw flies, scourge of the big cattle rancher.

INSPECTORS CAN DO A BETTER JOB

with Robins "ROLL-OVER" INSPECTION TABLE

The unique "roll-over" action of the Robins Inspection Table assures a thorough, positive inspection. Neoprene belting rolls stock over gently . . . inspectors can see all sides of stock. Flexible design permits any desired number of roll-over steps—any width or length.

For complete information on the Robins Inspection Table—or to obtain a copy of the Robins Catalog, call or write direct.

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Manufacturers of Food Processing Machinery Since 1855
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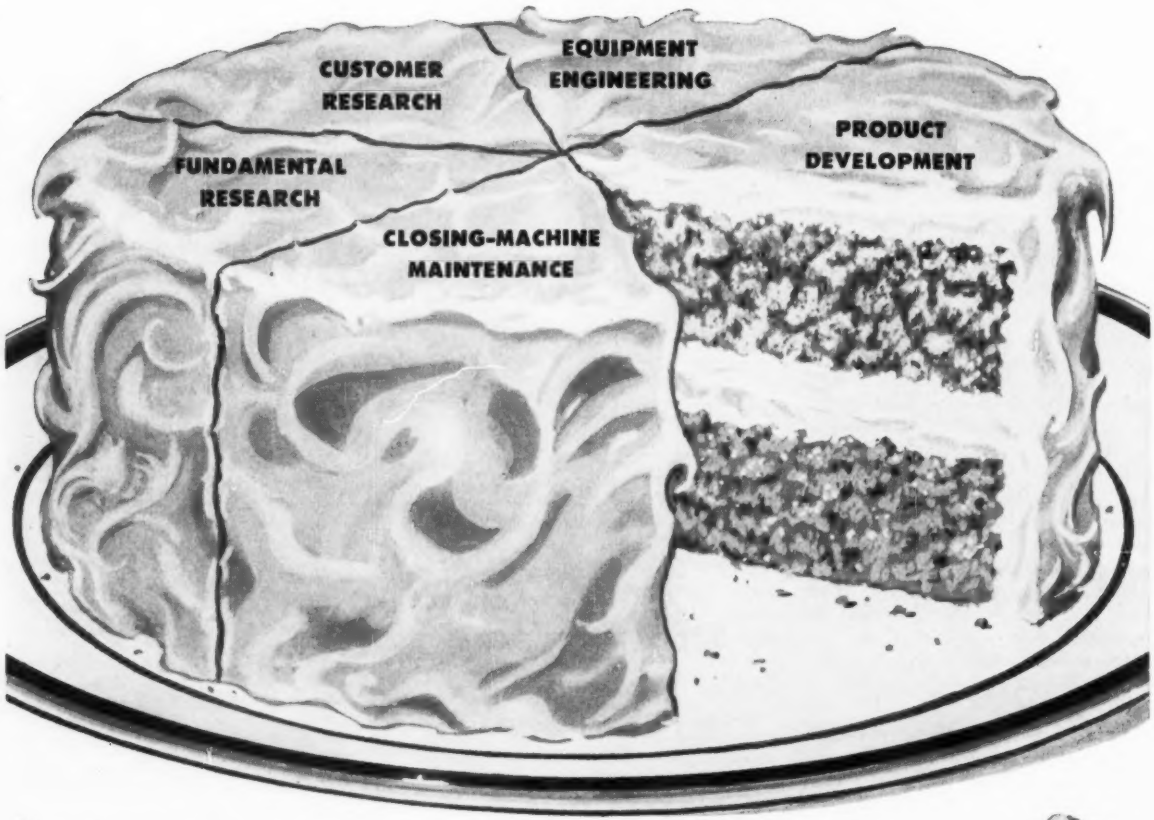
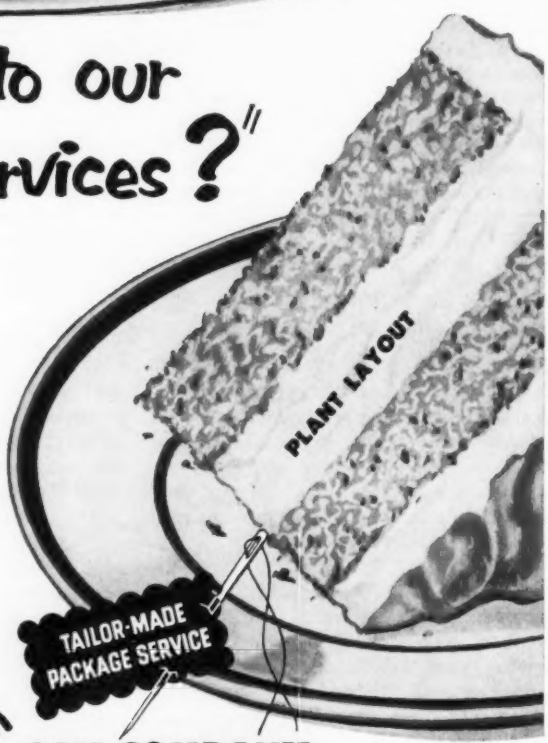


"May we help you to our tailor-made services?"

One thing that every Continental customer wants — and gets — is on-time deliveries. But there's nothing standard about a packer's needs for engineering and research. That's why we offer such a wide variety of services . . . each tailored to your individual situation. However you operate, you'll find Continental experts quickly available, and eager to keep your lines running smoothly. We like to do things your way. Why not let Tailor-Made Package Service help you?



CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

Food Packer
EDITORIAL COMMENT

Keep The Convention Strong

Another national convention has passed into review. Now is the time to study its general plan. Has it been successful? Does it need reworking? Did the individual who attended come away with the feeling, "mission accomplished?"

Certain individuals and groups have interested themselves in the matter and are preparing to make energetic attempts to study the situation. The value of the convention, to all concerned, has been proved beyond any question. Its accomplishments need not be repeated or labored. If any problem exists it may be this: – how to "preserve in vigor" the convention and its interwoven value. To these men and groups who have taken it upon themselves to seek ways of improving the annual meeting by concentrated study, *Food Packer* would like to lend its editorial support.

Before any final report can be made, it is first necessary to determine, if possible, by an industry-wide survey, just where any weakness – if there be one – in the present policy lies. How should such a survey be conducted? Who should do it? Where should emphasis be applied if a diagnostic survey shows weaknesses? (Some think there is a weakness in that the convention has not grown in size and stature as have others in lesser fields. They point out that the food industry is one of the largest, from an economic standpoint, in the country, and therefore, should witness one of the largest of all annual meetings.)

To lend our support to any study procedure, the editors of this paper will perform a study by asking hundreds of canners (and others, if they wish to voice their opinions) via the medium of a printed objective questionnaire, for their opinion on the present status of the convention. This will be done in the very near future. Results of the nationwide survey will be published in the April issue, if possible.

There are several factors to be examined on an impartial, objective basis. Is interest falling off in an overall pattern? Is interest falling off, or increasing in the various clinical discussion sessions and panels? Does the type and policy of hotel arrangements meet with canners' approval? What does the canner think of an amalgamation of freezers and canners in one national meeting? Does the machine and supply exhibit meet the needs and wishes of those attending? How about the schedule arrangement of present brokers and canners meetings? Is the geographical location of meetings satisfactory? Is it the wish of the canner to include some technical freezing sessions in the program? Are the present meetings dealing with raw products, quality control, canning problems, etc., too technical or not technical enough?

These and other queries must be made in such a study, the results of which can play an important part in future planning of convention programs and policy. This is true because it will reveal any points of retardation or strength that necessarily must be considered if and when ensuing plans are made for coming conventions.

Food Packer, with its planned survey, hopes to chart the course of present-day thinking of those who are basically interested in the annual meeting. Its findings will be available for study or review by anyone or any organization interested in the convention's future policies and success.

Such a vital industry, with its many changes and scientific improvements, must, by the mere fact that it is important to the nation and the world, be ever cognizant of its own status. The convention is one determining factor of its status. Will you help us get the facts?

Spotlighting the NEWS

USDA And NCA Seal A Film Bargain

A hand shake fittingly seals the pact on joint sponsorship of new film by USDA and NCA. R. Lyle Webster (left), director Office of Information, USDA, and Carlos Campbell, executive secretary of NCA, sign cooperative agreement on mutual production venture.

A film, "The Three Squares", treating of the historical beginnings of canning; modern techniques of growing and harvesting; the canning process; the research, which the industry conducts, the constant improvements in products canned; methods of canning and containers, in which foods are packed, will be jointly sponsored by the U.S. Department of Agriculture and the National Canners Association.

Officers of both organizations signed official agreement papers just recently. The USDA Department of Information and the NCA's Consumer & Trade Relations Committee took part in making the pact.

Stange Expansion Program

Wm. J. Stange Company, Chicago, has announced an extensive expansion program to include the establishment of new plants in Patterson, N. J., and Mexico City, Mexico.

The new plant in Patterson will be managed by V. Van Duzer, formerly manager of the Oakland (Calif.) plant.

The Mexican plant, already in operation under the name Stange-Pesa S.A., has been set up to serve Latin and South American countries.

In addition to these two plants the company has revealed construction plans for a new building which will triple the production of Stange-Pemberton, Ltd., at New Toronto, Canada. Also, plans have been completed, and construction started, to double the size of the present Stange Oakland (Calif.) branch plant.

For Our Readers

With this issue of *Food Packer* our readers will notice that some changes have been made in the magazine's general appearance.

Our front cover has been redesigned to add more color and thereby make it more attractive to our readers. We hope you like it.

As you read through this issue you'll notice, too, that a few old "department" titles have been changed to give them a more descriptive wording of the page's contents. "Between the Lines," long used as the paper's news page, henceforth will be a department—"Spotlighting the News."

The new title better depicts its contents. The editors promise that only news items of major importance will be printed therein to give you, in a nutshell, an interpretative account of the month's news.

"People and Plants," starting with this issue, becomes "Industry—Names & News." This page will be devoted exclusively to reporting personnel changes, promotions, transfers and appointments, plus, of course, the usual up-to-date reports on business items within the industry, to include financial transactions and reports, plant acquisitions, etc.

The editors hope that these changes, and others which may be made in the future, add to your reading ease and pleasure. The aim of *Food Packer* remains the same—to bring to its readers articles of interest and value coupled with a wide-range coverage of the food processing industry in an authoritative, subjective manner.

Busy spade wielders breaking ground for the new Canco plant at Salem, Ore., are: (left to right) Mayor Robert White of Salem; Governor Paul Patterson of Oregon; Vice president R. C. Stolk, American Can Company; and Salem Chamber of Commerce president Elmer Berg.

American Can Breaks Ground For Plant

A new plant, to spread out over 135,000 sq. ft. of floor area, to be located on an 11 1/2-acre tract of ground in Salem, Ore., is fast becoming more than an architect's dream. Ground recently was broken at the site and construction is now underway.

Specifications for the new plant were set up by Canco's engineering department. It will contain the very latest type of equipment and all modern conveniences. According to officers of the company, the plant will employ approximately 75 people and will have a rated output capacity of more than 240 million containers annually. Initial production of fruit and vegetable containers is scheduled to start late this spring.

Rail Rate Increase Opposed By USDA

The railroads' application for a blanket seven per cent increase in freight rates has been opposed by the secretary of agriculture. The secretary's office has asked the Interstate Commerce Commission to suspend the increased requested in Ex Parte 196, as it applies to raw and processed farm products, farm supplies and fish.

The petition for suspension emphasized that the increase would nullify efforts, now being made, to give relief to the farm producer's economic problem.

Mr. Benson pointed out that the railroads have obtained numerous freight increases since 1946 up to a total of 63 per cent while farm prices have fell eight per cent and prices paid by farmers have increased 32 per cent.

Olympic Athletics To Walk Down "Pickle Mile"

The pickle packers of America, and many from foreign countries, will join in a dual undertaking during the summer Olympic Games to be staged in Australia.

A complete and full mile, of a street yet to be designated, in the Olympic village will be completely lined for a distance of one mile with fully packed pickle jars. According to those in charge of the novel idea, every type of pickle packed will be on display in the lengthly "display case".

This will be the first time in the history of the famous games that such an undertaking has been attempted. It has not been announced if the athletics will be permitted to "curb" their appetites as they saunter down the street.

Minimum Does Not Change Wage-Hour Exemption

The minimum wage requirement of the Fair Labor Standards Act which became $1 an hour the first of this month does not effect the canning and agricultural exemptions—they remain unchanged.

Principal exemptions available to canners are (1) the two 14-week exemptions from overtime pay, and (2) the "area of production" exemption from the minimum wage as well as the overtime payment requirements of the law. Overtime exemptions are contained in sections 7(c) and 7(b)(3) of the law. The 7(c) exemption provides that in the canning of perishable or seasonal fruits or vegetables the processor need not pay overtime compensation during 14 weeks in the aggregate year.

Under section 7(b) seasonal processors also are exempt up to 12 hours per day or 56 hours a week for an additional period of 14 weeks in the aggregate.

Truck Transport Of Florida Citrus Expanded

Highway transport by refrigerated truck-trailers of frozen Florida citrus has been greatly expanded by an order recently announced by Division I, Interstate Commerce Commission.

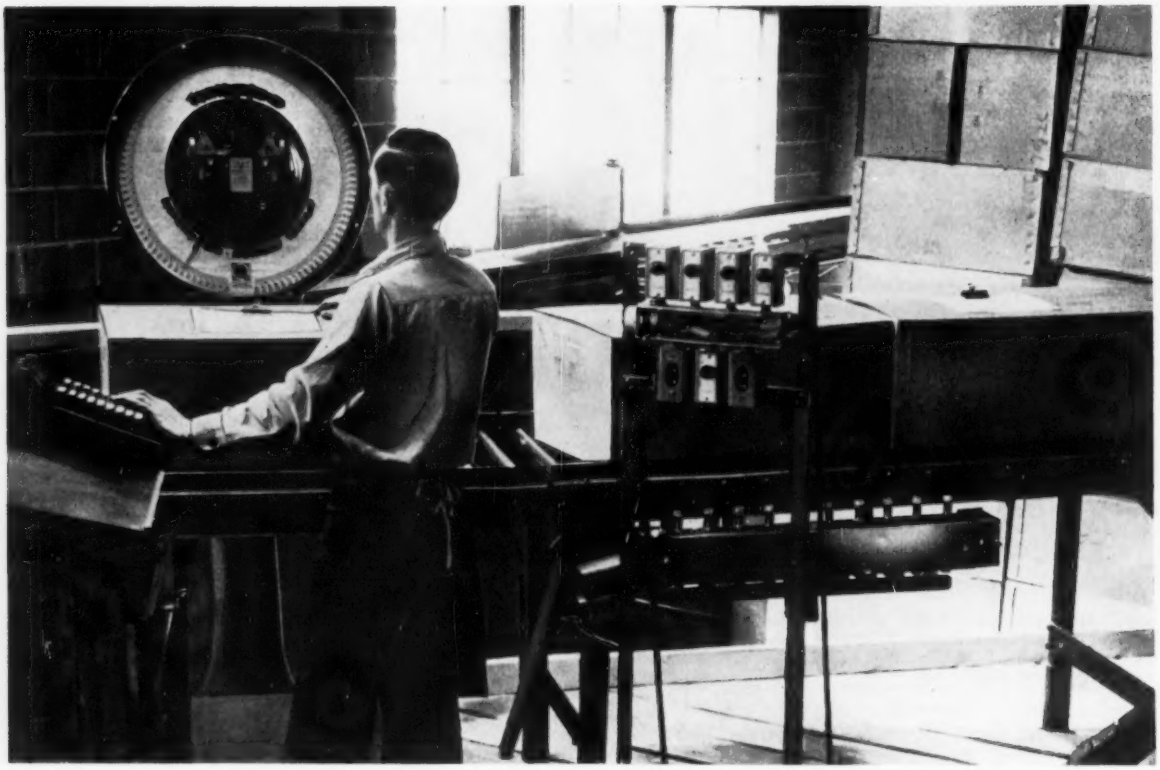
The ICC has granted authority under Title Case MC 644110, Subpar. 13, for motor freight carriers to expand transport of citrus from Florida to points in 34 states.

The extended rate is the result of the new method of transporting fresh juice which entails the pumping of fresh juice into insulated tank trailers at the processing plant for shipment to northern points. The trailers hold 3,750 gal. of juice and have a stainless-steel inner shell which is covered by a balsa wood and fiber-glass reinforced plastic outer shell. This method resulted in an increase of 35 million gal. of juice shipped last year.

Morrill Gets Added Honor

An illuminated Lord Calvert scroll designating him as Man of Distinction was recently awarded George B. Morrill, Jr., past president of the National Canners Association and vice president of Burnham & Morrill.

Presentation of the scroll was made by Benjamin D. Frost, brand manager, Calvert Distilleries. Mr. Frost declared that Mr. Morrill "had given much of himself and his time to the entire food industry".



Scales are used to spot-check net weight during rapid packing cartons pass shipping inspection. Operation avoids errors.

Knowing Scales Gives . . .

Better Weight Control For Bigger Profits

Overweights And Underweights, If Not Checked, Can Turn Black To Red On Annual Statements.

By

Arthur Sanders

Executive Secretary
National Association Of Scale Manufacturers

Incorrect weights can be tremendously expensive to food packers. It isn't possible to obtain precise figures, of course, because packers making mistakes of this type are totally unaware of their errors.

Still, from such figures as are obtainable from responsible sources, it is possible to make an "educated guess" that such losses can amount to substantial sums in the course of a year.

An exaggeration? No, sir! Just take a few true case histories presented by leading weights and measures officers of the nation – they bear out this contention. To anyone not fully aware of the relationship of accurate weighing and black ink in the ledger sheet, they may be eye-openers.

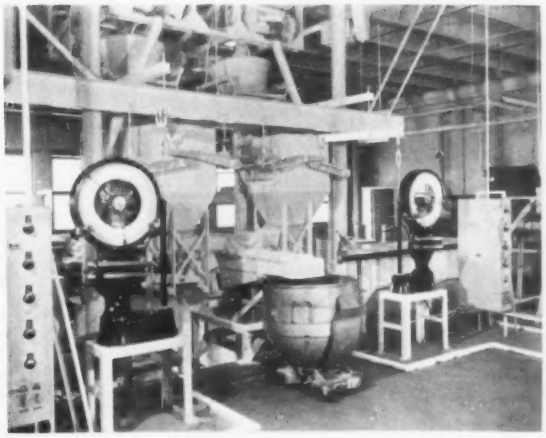
A State Survey

In October, 1955, a particular state's weights and measures newsletter, distributed among sealers and others concerned with accurate weight determinations, reported the results of a survey made by the state's scale officers, among the scales being used in canning factories. Close to 1,100 tests were made without advance notice to the users.

Of 1,094 scales tested, almost 13 per cent – 140 – were condemned as being out of legal tolerance. Of these, 42 were in such bad condition that they were ordered destroyed by the inspectors as being beyond repair.

Of the 954 scales in use in canning factories which the inspectors approved, nearly 24 per cent more had to have some type of repair or adjustment before they could be approved for use.

Without laboring the point, 365 out of 1,094 scales in use in that state's canning factories – a state that has excellent weights and measures inspection and scales



Exact ingredient proportioning in batch-weighing safe-guards quality as well as quantities of expensive raw materials.

Large quantities of dry free-flowing materials such as rice or grain may be checkweighed with automatic hopper scales.

that are, probably, considerably better than the national average – were incorrect or unsatisfactory at the time the tests were conducted.

Now what does this mean in dollars and cents?

To answer that it is only necessary to cite an example taken from a recent annual report by Charles Sattler, Commissioner of Labor, State of West Virginia, who has charge of weights and measures inspection for his state. In discussing some of the weighing errors his inspectors had uncovered, Mr. Sattler said: "A recent check of a processor indicated that instead of filling cans with 16 oz. of his product, the machine, through accident, had been set so that actually 17-1/2 oz. were placed in the cans.

"Inasmuch as the machine was filling 5,000 cases per day and there were 24 cans to the case, or 120,000 cans and the loss per can due to overage was approximately one cent per can, the financial loss per day was $1,200.

"Of course," Mr. Sattler continues, "the situation was immediately corrected when the discrepancy was discovered."

A little simple arithmetic shows that if that loss had continued for a year, it would have cost the canner a whopping $360,000.

Short Weight Costly

There is another side of the coin, of course. All weighing errors are not on the side of giving expensive overweight. Even when short weight is given, it can cost money to say nothing of dissipating precious good will built up by years of honest dealing and large sums of money spent on advertising.

Consider the case of the processor who recently had to reprocess, repackage and reship 60,000 bags of his product in upstate New York.

Sealer Wright Hudson, in charge of weights and measures enforcement in this particular New York county, making inspections of this particular processor's output, discovered it was short weight. He prohibited its sale until the 60,000 bags were repacked, reweighed and reprocessed. Think of what it did to the profits on that particular operation. Repacking 60,000 bags isn't just an old hat trick.

Mr. Wright discovered 81 scales used in canning and processing in this county that were giving inaccurate results. It took only elementary arithmetic to figure out the approximate annual loss to the canners and the public from these errors. He merely multiplied the product-flow over the production lines by the value of the material processed and the amount of the error. This came to a conservative figure of $543,000 – an average of about $6,700 per scale.

And all of this in just one rural county – upstate New York! Think of what the national total must be!

It is possible to point out similar examples. Please bear in mind that these are actual case histories, compiled by responsible public officers. They are not just guesses – they're hard, cold facts.

Scale Error Study

The Education Committee of the National Conference on Weights & Measures, in cooperation with the National Association of Scale Manufacturers, Incorporated, recently did some work on the cost of scale errors. A "scale error chart" was prepared, showing how quickly infinitesimal errors can add up to astonishing sums. Copies are available upon request, without charge.

Mr. Howard E. Crawford, head of weight and measures, Jacksonville, Fla., and chairman of the National Conference Education Committee, points up an interesting example: – "A half ounce can easily be worth $7,800 a year. A scale that is inaccurate a half-ounce per pound is costing someone 3.12 per cent on every weighing. On a production line that packages $1,000 worth of products a day, the cost is $31.20 each day. If this continues for a year of 250 packaging days, the cost of the half-ounce error amounts to approximately $7,800."

This tremendous value of the material that flows over scales can make even small errors very costly.

Repetitive Errors Costly

Still another example can be given of an analysis of the cost of scale errors by a large volume food processor. It proves that it is not the cost of the small single error, but the continuous repetition of that error that should be considered.

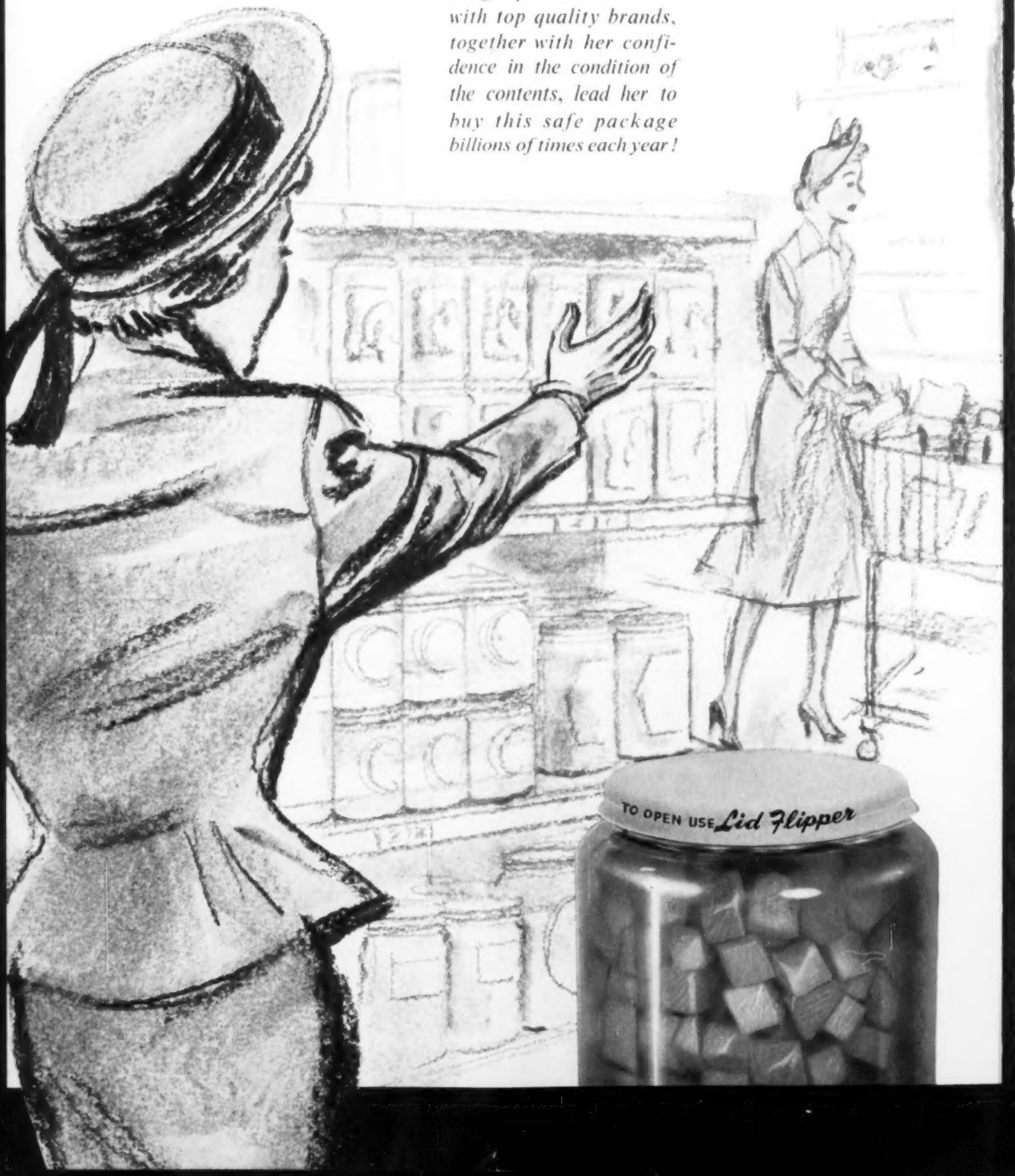
The chief methods engineer of General Mills, Fred Blummers, speaking before the National Scale Men's Association, pointed up the importance of careful attention to weighing equipment thus: The package weights given must be at least the full net weight, or else the weights and measures laws may be invoked to prosecute for giving short weight – with a consequent costly loss of business reputation. On the other hand, giving overweight can prove enormously expensive. Mr. Blummers declared

(*Continued on Page 38*)

At the instant of decision...

...it's so easy for her hand to move toward Vapor-Vacuum sealed foods-in-glass!

Long repeated association with top quality brands, together with her confidence in the condition of the contents, lead her to buy this safe package billions of times each year!



She knows, for sure, it's always good!

The package the shopper buys... the package her hand reaches out for at the moment of choice... is generally *the one she has faith in. Faith, based on experience,* is the most active force at this decisive instant. Hence, this important question:

When food is offered in glass, what part do closures play in building faith? Let's see —

In any study of shoppers' actions at the point of sale, one of the key facts has to be this:
Actually, when the chips are down, the shopper's hand moves straight to the Vapor-Vacuum sealed package *thousands of millions of times a year!*
Why? For the solid reason that the Vapor-Vacuum sealed package is the glass package which the shopper has learned to respect and have faith in.

Powerful weapon

There is a simple but fundamental principle in glass packaging, which runs like this:
In the process of building consumer confidence in a glass-packed food, the Vapor-Vacuum Seal is a very powerful weapon.
Shoppers have learned that the Vapor-Vacuum sealed package is truly worthy of their confidence. They know that any food bought in this package always opens up in prime condition.

In other words, Vapor-Vacuum offers packers the tremendous asset of *consumer belief* in the perfect, unchanging condition of the product—and thus helps to direct the shoppers' hands towards brands with Vapor-Vacuum Seals.

A matter of good association

All through the modern rise of glass packaging, Vapor-Vacuum sealing has been associated with the finest brands. Packers who put high quality into their packages use Vapor-Vacuum sealing to do the job for them.
Result—a constant association of Vapor-Vacuum and quality foods—and a powerful effect on the shopper's thinking.
It's this association of quality, plus the sure knowledge that Vapor-Vacuum sealed food is always good, that make it so natural and easy for shoppers to buy the package with the Vapor-Vacuum cap.

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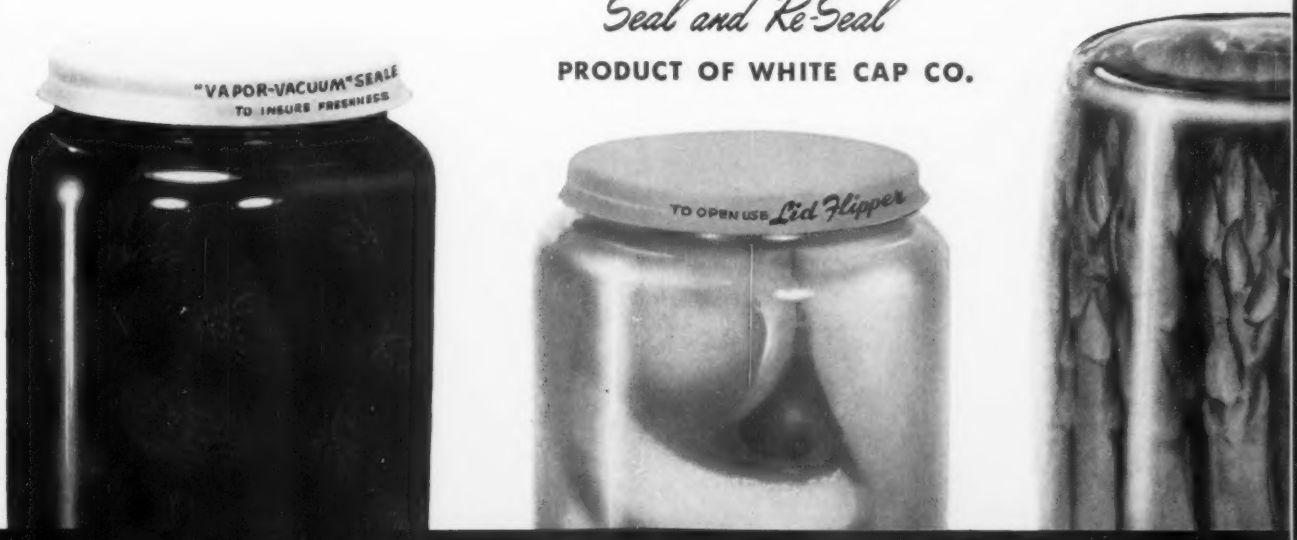
"VAPOR-VACUUM"
Seal and Re-Seal
PRODUCT OF WHITE CAP CO.



PRODUCT OF WHITE CAP COMPANY CHICAGO 39

WILBUR A. GOULD, PH.D.
Ohio State University
Quality Control
EDITOR

Instruments To Control Product Quality

Modern, Scientific Instruments Mean Successful Operation Of Canning Factories

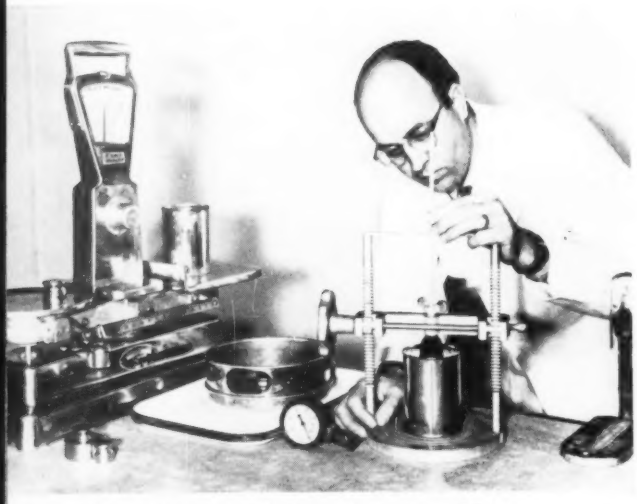


Fig. 1. Necessary instruments in any laboratory are can opener, center temperature measuring device, vacuum gage, grading trays, drained weight screens and scale.

Fig. 2. A head-space gage is a "must" instrument in the quality control lab.

(1) Anon. Market demand and product quality. A report of the 1951 Marketing Research Workshop. ARA., USDA.

Part I

Quality control instruments provide plant management with an objective means of measuring product quality in terms of numbers. With industry standards based on quality determined through the use of instruments, management has an objective index of quality – hour by hour, day by day, or year by year. Instrumentation for control of product quality means a tremendous forward step in the successful operation of canning factories; it means control of product quality at predetermined desired levels.

Duty of Management

Before we discuss instruments for control of product quality, it should be emphasized that plant management must provide for the following three factors: (1) a quality control laboratory properly equipped to carry out basic testing and quality control analyses or procedures; (2) a trained food technologist who understands: (a) how to obtain representative samples of the raw product, the product during processing, and the finished product; (b) laboratory and instrument techniques; and (c) the interpretation of the quality data obtained; and (3) a desire by management for information on quality and an understanding of what should be done with this information to control product quality at desired levels.

Quality may be defined as "the combination of characteristics of a product that have significance in determining the degree of acceptability of the product to a user."[1] If all the characteristics of quality could be evaluated from data obtained through the use of instruments and appropriate standards of quality established, the quality of canned products could be maintained or controlled at the desired degree or degrees of acceptability.

Products Determine Instruments

Laboratory instruments for control of product quality generally differ according to specific products. They are commonly referred to as the "destructive sample type instruments." Before discussing them, let's look at some of the basic laboratory instruments needed by any quality control technologist. The first essential instruments are shown in Fig. 1. These include center temperature measuring device, vacuum gage, drained weight screens (2 and 8 mesh), an accurate scale and size grading screens. The application of and need for these instruments is quite evident. However, let's take one example – drained weight. Here, using canned tomatoes, the U. S. Standard for Grades of Canned Tomatoes have specific values as shown in Table 1 for the various qualities. If a tomato canner is attempting to pack Grade A tomatoes, he must have, among other factors of quality, 13-1/2 oz. for a No. 2 size can of tomatoes. If his product has a drained weight of 12 oz., it is Grade B quality, etc.

Fig. 2 shows a head-space gage. Most canned products require the can to be filled to 90 per cent capacity of

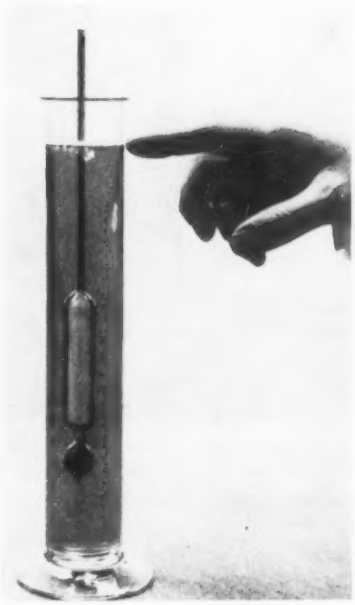


Fig. 3. Hydrometer and cylinder for determining Brix's value of canned apple juice.

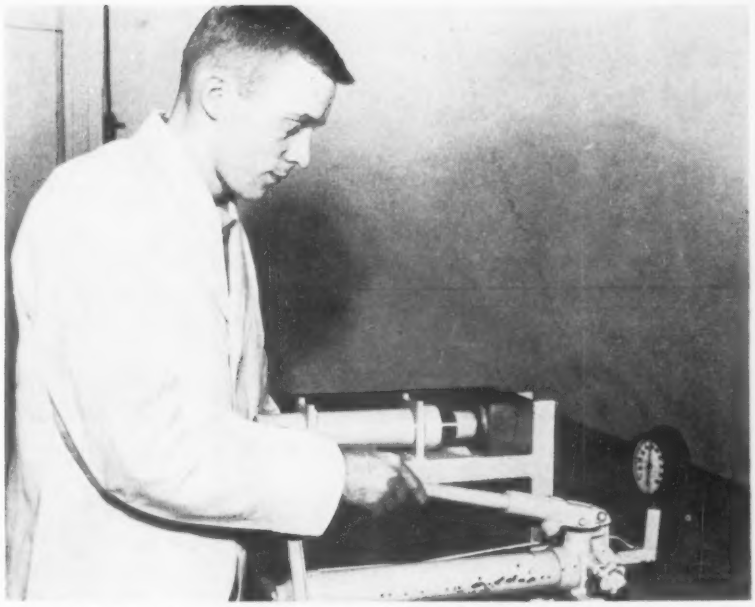


Fig. 5. Steinlite and equipment – an electronic moisture tester for determining the moisture content of various fruits and vegetables.

the container. Therefore, when examining a product, the quality control technologist should include the measurement of head-space and record it. Table 2 gives the maximum head-space allowed to comply with this 90 per cent tolerance for various sizes of cans.[2]

Fig. 3 shows a hydrometer being used to evaluate the brix value in canned aple juice. Hydrometers are specific for various solutions and can be obtained to evaluate salt content for brines; various chemicals, such as per cent of alcohol as used for determining AIS, as well as sirups used in packing fruits.

Fig. 4 – succulometer; 5 – steinlite; 6 – texturometer; 7 – Adams consistometer; 8 – Bostwick consistometer; and 9 – refractometer illustrate specific instruments used to evaluate specific attributes of quality. A one-line packers' quality control department obviously would want one of these instruments for the control of quality of his specific commodity. They find their place in the operation for determining the maturity of the raw crop or the evaluation of a specific process variable.

TABLE I

DRAINED WEIGHTS FOR CANNED TOMATOES

Container Size			Picnic	No. 303	No. 2	No. 2-1/2	No. 10
Maximum head space allowable (measured from top of double seam in 16th of an inch)			8.8	9.4	9.7	9.9	13.6
Classification	Score Points	Drained Tomatoes	Ounces	Ounces	Ounces MINIMUM	Ounces	Ounces
Grade A Whole	20	63%	7	10-1/2	13	18-3/4	68-3/4
	19	61-1/2%	6-3/4	10-1/4	12-1/2	18-1/4	67
	18	59-1/2%	6-1/2	10	12-1/4	17-3/4	65
Grade A	20	70%	7-3/4	11-3/4	14-1/2	20-3/4	76-1/2
	19	68%	7-1/2	11-1/2	14	20-1/4	74-1/2
	18	66%	7-1/4	11	13-1/2	19-3/4	72-1/4
Grade B	17	63%	6-3/4	10-1/2	13	18-3/4	69
	16	60%	6-1/2	10	12-1/4	17-3/4	65-1/2
	15	58%	6-1/4	9-3/4	12	17-1/4	63-1/2
Grade C	14	55%	6	9-1/4	11-1/4	17-1/2	60-1/4
	13	52%	5-3/4	8-3/4	10-3/4	15-1/2	56-3/4
	12	50%	5-1/2	8-1/2	10-1/4	14-3/4	54-3/4
Grade D	11 or less			Less than in "C" classification			

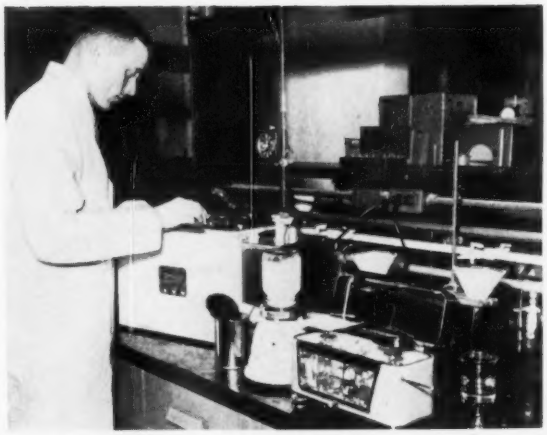


Fig. 5. A succulometer is used for determining the succulence of raw, canned and frozen whole kernel corn.

Fig. 6. Texturometer – an instrument for determining the tenderness of products like snap beans, asparagus and celery.

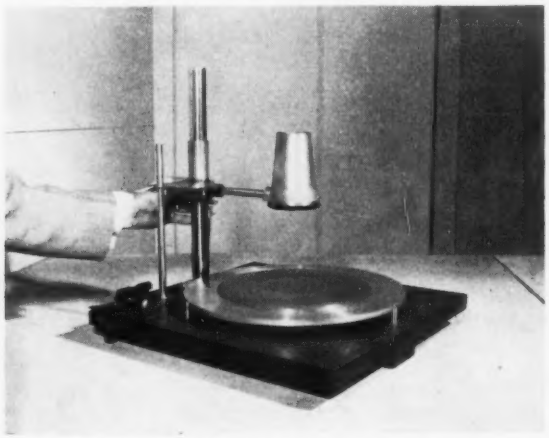


Fig. 7. Adam's Consistometer – an instrument for measuring the consistency or spread of cream style corn, apple sauce and chili sauce.

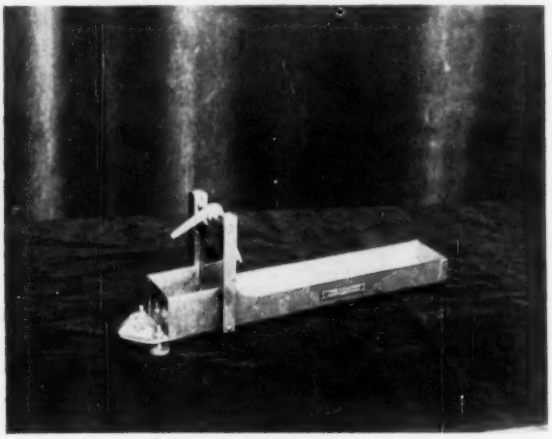


Fig. 8. Bostwick consistometer is used for evaluating the consistency of tomato catsup and tomato puree. It is an important instrument.

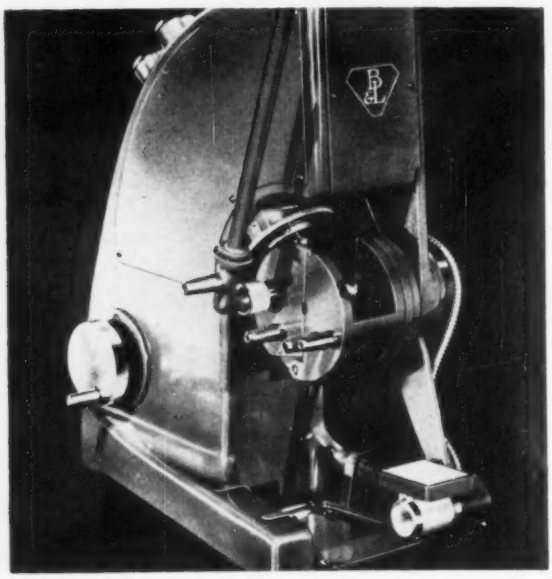


Fig. 9. Bausch & Lomb 56 refractometer is employed in determining the refractive index and per cent of soluble solids of various liquids.

TABLE II

HEAD-SPACE TOLERANCES FOR VARIOUS SIZES OF CANS

Can Make	Can Maker's Description	Maximum Gross Head Space Allowable*
8Z	211 x 300	7.2
No. 1 Picnic	211 x 400	8.8
No. 300	300 x 407	9.5
No. 303	303 x 406	9.4
No. 2	307 x 409	9.7
No. 2-1/2	401 x 411	9.9
No. 3 Vacuum	404 x 307	7.9
No. 3 Cylinder	404 x 700	13.6
No. 10	603 x 700	13.6

* in 16th of an inch.

Protect Color
and flavor!
FROZEN PEACHES
Frozen CHERRIES
FROZEN APPLES
Use Pfizer Ascorbic Acid or Ascorbic-Citric Mixture to protect your bulk frozen fruits—peaches, cherries, apricots, apples.

It costs surprisingly little* to keep your frozen food packs looking fresh and tasting fresh . . . to give them greater sales appeal with . . .

PFIZER ASCORBIC ACID. In fruits, ascorbic acid controls the oxidation that causes browning and flavor loss. A small amount of ascorbic on fish will check "rusting" of the fatty portion that results in off-taste. Write for Technical Bulletins No. 28 (frozen fish) and No. 70 (frozen fruit) for helpful information on how to use Pfizer Ascorbic Acid in your processing . . . to **protect your sales!**

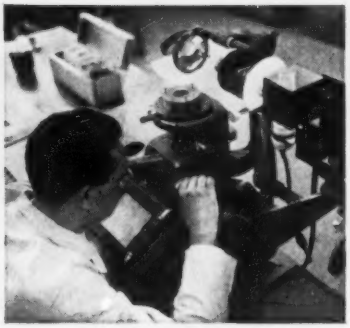
*A fraction of a cent per pound.

CHAS. PFIZER & CO., INC., • *Chemical Sales Division* • 630 Flushing Ave., Brooklyn 6, N. Y.

Branch Offices: Chicago, Ill.; San Francisco, Calif.; Vernon, Calif.; Atlanta, Ga.; Dallas, Texas

Manufacturing Chemists for Over 100 Years **Pfizer**

OWENS-ILLINOIS ASSURES YOU A



Co-ordinated Research

Pure research into formulae and fabrication of glass, *packaging research* into processing and handling methods in customer plants, and *market research* into consumer attitudes, add up to greater specific value for your packaging dollar.

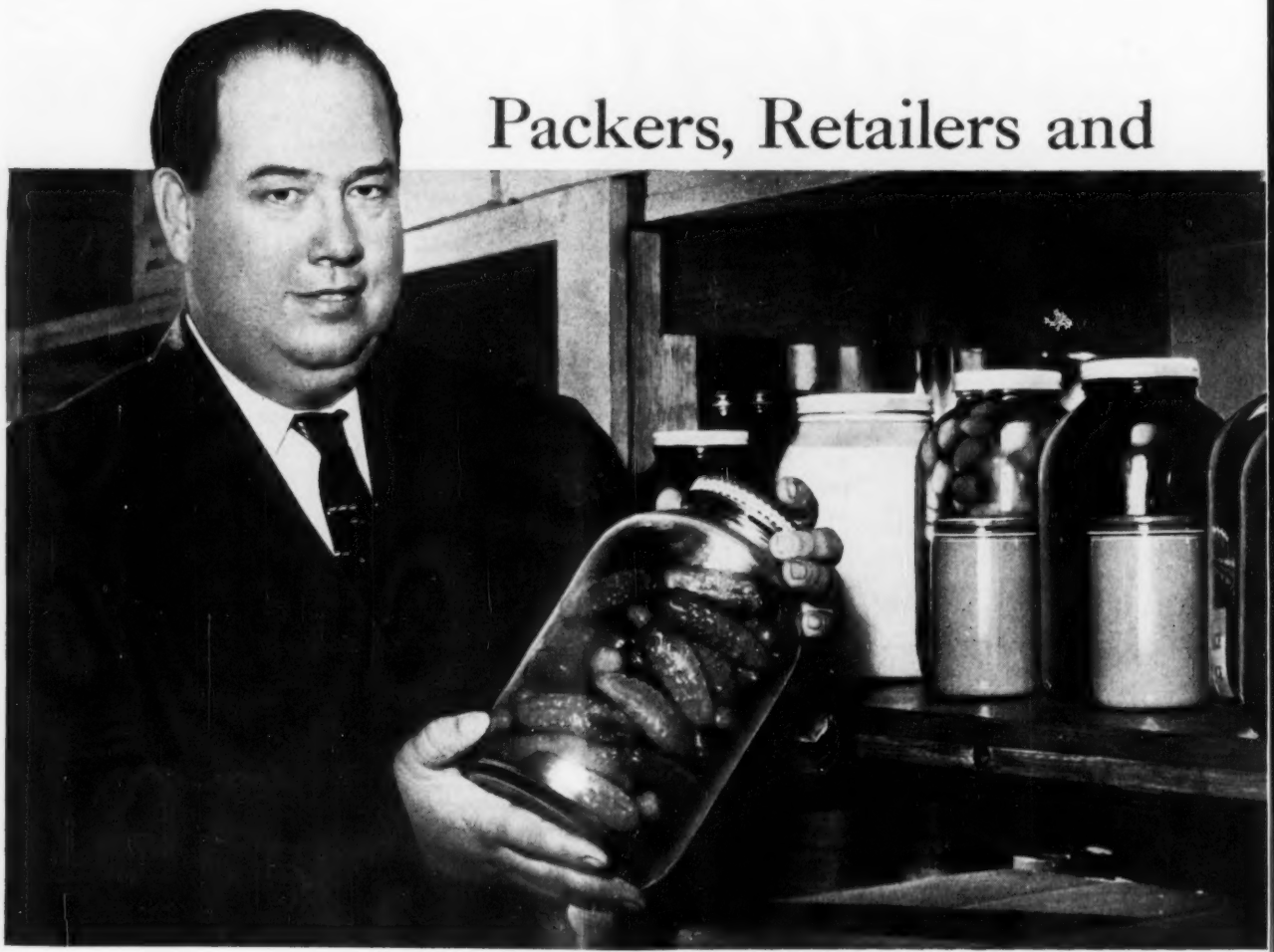
Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.

The Right Container

Versatility of facilities enables Owens-Illinois to supply containers to meet special needs: Duraglas containers for almost any item; Libbey Safedge packing tumblers or premiums; Kimble Ampuls and Vials; and a variety of Owens-Illinois plastic containers.

Packers, Retailers and



COMPLETE PACKAGING APPROACH

The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.

Needed Fitments

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

Consumers must all be considered

For example, Kenneth DeWees, Food Service Director of Spiegel, Inc., Chicago, is a consumer in the sense of being the user of large quantities of pickles in his cafeterias. His attitude is reflected in his statement—"I want my pickles in gallon glass jars." In addition to the absolute flavor protection and storage convenience provided by glass, Mr. DeWees especially likes the visible inventory they provide which enables him to see quickly how much is left and when to order more to avoid running out.

Many homemakers like the re-use feature of the refrigerator type jar. All of these containers are designed with the packer's requirements in mind.

So for the glass jars and closures you need to meet your marketing situations look to Owens-Illinois for the most complete line. Our nearest office is at your service.

DURAGLAS CONTAINERS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Co-Experiments With . . .

New Pole Bean Picker

- *Preserves Quality*
- *Saves Time*
- *Saves Cost*

New machine picks both sides of the row simultaneously.

Satisfactory progress has been made in the development of a technical pole bean picker, according to the co-experimentors, Food Machinery & Chemical Corporation's Machinery Division and the Pacific Northwest Blue Bean Processors.

The machine, designed to mechanically harvest Blue Lake beans, a variety particularly adapted to West Coast climatic conditions, has been in an experimental stage since 1952. It is the outgrowth of the invention of a pole bean picker-head first introduced by Max Lehman, president, Northwest Canning Company. His original idea was first tested in a greenhouse, and later at one of the Portland area farms during the 1952 season.

After a crude beginning, Mr. Lehman and his associates were encouraged enough to approach the Food Machinery & Chemical Corporation for help in the development of a machine that would automatically pick pole beans. The Canning Machinery Division of FMC produced the first pilot pole bean harvester for experimental purposes during the 1953 season.

Pole bean processors of Oregon and Washington entered into a partnership arrangement with the manufacturer through Northwest Canners Association serving as agent for mutual financing of the project. The two organizations have been working cooperatively on the project ever since. Processors are represented through a five-man committee, of which Mr. Lehman is chairman.

At the conclusion of the 1955 pole bean harvesting season it was the consensus of all affiliated parties that the machine has reached a stage of development where it appears that it may be in commercial use soon. It has further been revealed that the 1956 development program will include semi-commercial application.

Reduced production costs, timely picking and competitive marketing conditions were the primary factors encouraging the development of mechanical means for picking Blue Lake beans. A harvester of this type permits enlarged production with an assurance of picking at the proper moment and the resultant improved quality, according to the interested parties.

First Trials

A pilot model of the harvester was first tried out on the L&H Farms, Portland, and later at the experimental lots at the Van Buren Farm near the same city. The trial lots were set up under the supervision of a subcommittee headed by John Johnson, Blue Lake Packers, and later by Courtney Lasselle, Portland Canning Company. Dr. W. A. Frazier and Dr. Spence Apple, Oregon State College, also members of the committee, took active part in the planning and arrangement of the testing fields.

The first pilot machine was a stripped-down model which did not attempt to save the harvested beans. The initial purpose was to determine if the basic principle was workable. The early model was not equipped with a collecting device, conveyors, clusterbreakers, cleaners, etc. The 1955 model incorporates collecting conveyors, elevators and cleaners.

Operating Principle

In operation the picker straddles the row, operating a pair of pickerheads which work simultaneously on both sides of the vine. The pickerheads consist of a pair of upward-moving series of horizontal bars. These bars are staggered and close enough to overlap while working both sides of the row. The heads are spring-loaded and open slightly when passing the wooden center post supporting the cords or string.

Pole beans snapped from the vines fall into a sled-type pan at the bottom of the harvester. From there the beans are blown across the pan to a vacuum device that sucks them into the hopper. When the machine, which is operated by one man, reaches the end of a row, the beans are removed from the hopper and sacked, or dumped into tote boxes.

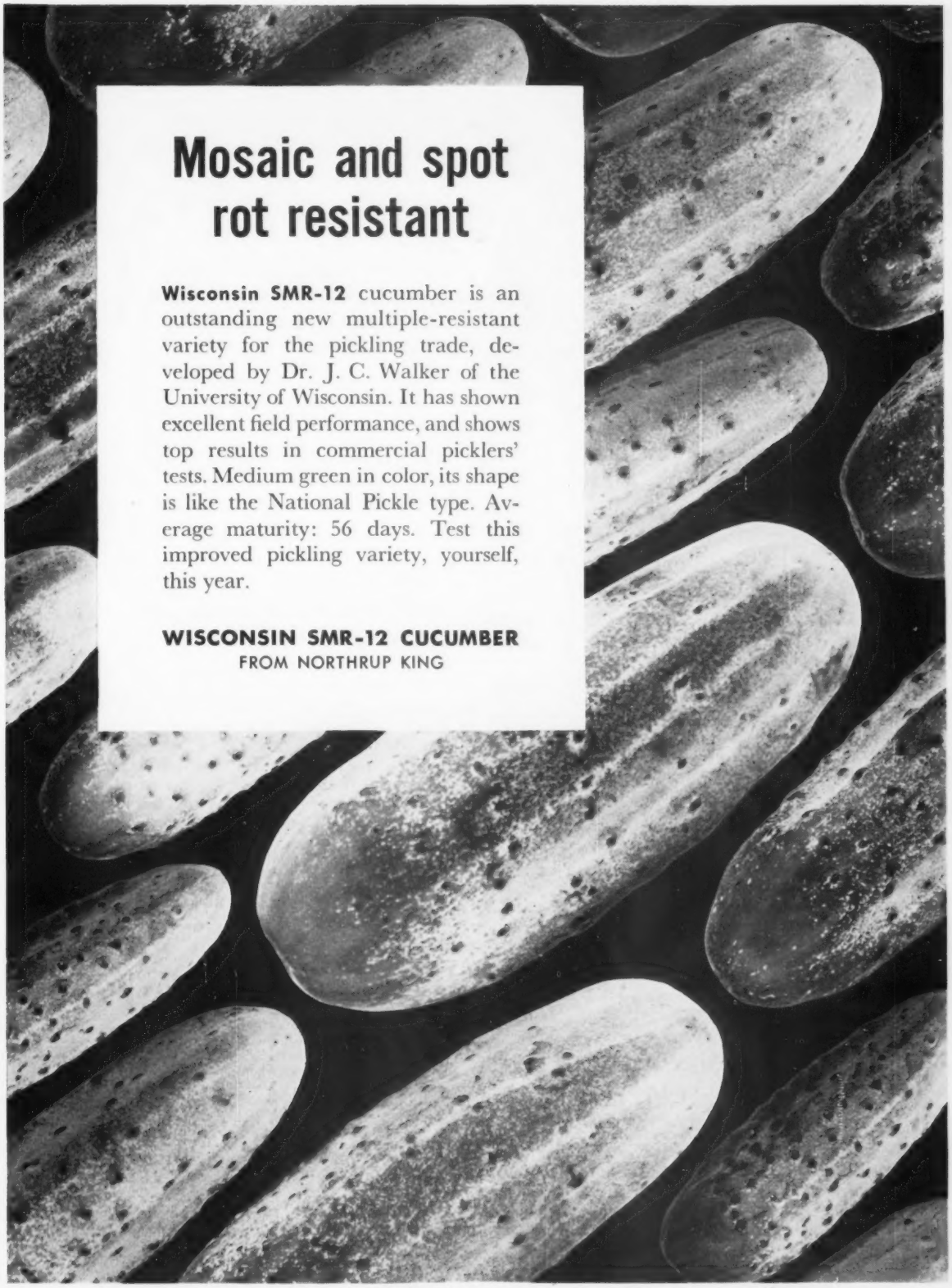
Higher costs in raising beans on poles makes it necessary to get larger yields, enough so to make the crop profitable. One-stage picking will not accomplish this so the mechanical harvester was designed to make picking in several stages of bean growth possible. Furthermore, beans must be removed from the vines gently in order to prevent bruising or breakage, which could decrease their value for packing a quality product.

So far tests and experimental picking have proved the harvester to cause a minimum of damage in the picking process. Most of those who have witnessed the results obtained with the pilot model are well satisfied with the progress made.

In 1953 experimental work was confined to determining the usefulness of the picking head, but in 1954 the testing was pointed toward finding the most efficient methods in picking, collecting and conveying beans to the hoppers, and in cleaning and separating beans from leaves, etc. During the 1955 season further improvements were made in all respects; however, there are still some problems to be solved.

Future Problems

Mr. Lehman points out that it has not yet been determined why, on certain days, under certain conditions, and in a certain stage of maturity, beans can be removed from the vines more easily than on other occasions. He points out, too, that different results are obtained on different strains of beans, and that a great deal more can still be learned about a yard arrangement best suited for mechanical picking.



Mosaic and spot rot resistant

Wisconsin SMR-12 cucumber is an outstanding new multiple-resistant variety for the pickling trade, developed by Dr. J. C. Walker of the University of Wisconsin. It has shown excellent field performance, and shows top results in commercial picklers' tests. Medium green in color, its shape is like the National Pickle type. Average maturity: 56 days. Test this improved pickling variety, yourself, this year.

WISCONSIN SMR-12 CUCUMBER
FROM NORTHRUP KING

NORTHRUP, KING & CO. NK MINNEAPOLIS 13, MINNESOTA

(*Continued from Page 27*)

Scales are used to spot-check net weight during rapid packing operations. Empty jar is placed on scale in weighing full jar of peanut butter to ascertain exact net weight.

that if a single one of the scales used to weigh breakfast foods consistently gave an eighth of an ounce excess overweight, it could cost the company $100,000 a year for that scale alone.

"If the scale used to weigh flour gave one-half ounce overweight per package, the company could lose $500,000 a year on that scale alone," he said.

Multiple Causes Of Errors

What are some of the common causes of scale errors? The most common are: abuse, worn-out or obsolete scales, and the build-up of friction.

Modern American scales are ruggedly built. They can really "take it." But, what is too often overlooked is that the scale is a sensitive, precision instrument. Many scales are built with the fine precision of a watch. One ten-thousandth-of-an-inch tolerances are not uncommon.

That means that rough treatment, such as dropping of loads on the scale or the attempted repair or adjustment of scales by untrained personnel, can cause sensitive mechanisms to get out of alignment. This definitely leads to errors.

Friction is another cause of weighing mistakes. The most common cause of friction is just plain old "wearing out" of scales. When parts are new, they are keen and hard and move easily against each other. With hundreds or thousands of weighings, the parts become dulled and build up resistance to movement. That usually means that more weight is on the platform than is indicated by the scale.

In short, it usually means that more of the product is being given away than credit received for same. It is well to keep in mind at all times that scales are weighing the company's money.

Constant Checks Necessary

Frequent, regular tests are the only way to determine whether scales are correct. Scales never give any warning when registering incorrect results. Unlike other pieces of equipment, they seldom, or never, break down, but just keep right on grinding out inaccurate results. Such results are virtually guaranteed to cost money or get the user into difficulties with the weights and measures inspectors.

The comparison of net weighing with gross weighing is a subject of never-ending interest. Scale manufacturers are prepared to supply equipment for either type of weighing. Which method to use will depend upon the circumstances of the particular processing operations. The most significant of these probably is the type and flow characteristics of the product to be packed. Unquestionably, the greatest accuracy can be achieved with net weighing, where the factor of non-uniform containers is involved. However, the flow and other handling characteristics must be considered, as materials which stick and cling to the weigh-hopper might soon "gum up the works."

A big problem with gross weighing at high speed, of course, is uniformity of containers. The scale must weigh what is placed on the platform, and when there are substantial variations in the weight of the containers, these same variations will result in the net weight of the product. Only careful analysis of the entire process can provide the correct conclusion on net or gross weighing. Scale manufacturers have experienced engineers who will gladly study particular problems.

Inbound Weighing

The weighing of incoming materials is of equal importance to output-weighing in food packing. The effect is the same – it amounts to money – whether it is a buying weight or a selling weight. All suppliers sometimes make mistakes and if their weight is accepted at face value, a serious risk is involved. Not only are there possibilities of the seller's clerical errors and carelessness in reading weight, but the supplier's scales may be incorrect. The only way a buyer can protect his interest and slim margin of profit is to weigh it as commodities are received and keep accurate records, such as printed weight tickets. If commodities are not weighed, errors will never be discovered, and the accounting staffs may search in vain for profit leaks. If record proof is not available in short weight on receipt, chances of recovery are nil.

There is another valuable service that scales provide for food processors in addition to protecting them from getting or giving short weight. That is increasing the efficiency of operations. Automation, labor-saving, quality controls and statistical controls–these are only a few areas where modern scales can save money. The correct placing of scales in plant layouts to save unnecessary materials handling costs; the replacement of expensive human labor, subject as it is to so many mistakes, by automatic weighing and weight-printing devices – these are only a few of the many areas where up-to-date scales can lead to important savings for companies which are "scale conscious."

Concentrated lemon juice is weighed out to 450 lb. net on a portable scale. Tare weight of barrels is compensated for on scale beams.

For BEANS, CORN and PEAS
DU PONT
DELSAN A-D
SEED PROTECTANT
COMBINATION INSECTICIDE AND FUNGICIDE FOR
CORN, BEANS AND PEAS
NET 7 OZS.
E. I. DU PONT DE NEMOURS & COMPANY INC.

Helps assure uniform stands that lead to top-quality yields

• "Delsan" A-D stops disease damage (shown here on lima bean seed). Contains "Arasan" SF-X for superior seed protection from time of seeding until stand is established.

• "Delsan" A-D stops insects before damage like this can occur. Contains dieldrin insecticide to protect seed from early attacks by seed-corn maggot (bean maggot) and similar soil insects.

Du Pont "Delsan" A-D protects seed from decay and insect damage

The double protection of Du Pont "Delsan" A-D on seed costs little. But it can pay big dividends in yield by eliminating the gaps in rows caused by soil insects or seed-borne disease. More important, "Delsan" A-D can save you the cost of a replanting job—often necessary when *both* seed enemies attack your crop.

On seed corn (field or sweet), beans (including limas), and pea seed, "Delsan" A-D helps assure better emergence, stronger early growth and increased yield. Contains "Arasan" SF-X and dieldrin. Available for commercial slurry treatment, or in 7-oz. home-treating size.

FOR VEGETABLES, CORN, LEGUMES... "Arasan" SF-M—specially designed for slurry treaters, seed mixers or blenders. Not for dust treaters. Contains 75% thiram, plus methoxychlor insecticide.

On all chemicals, follow label instructions and warnings carefully.

DU PONT REG. U.S. PAT. OFF. **DELSAN® A-D**

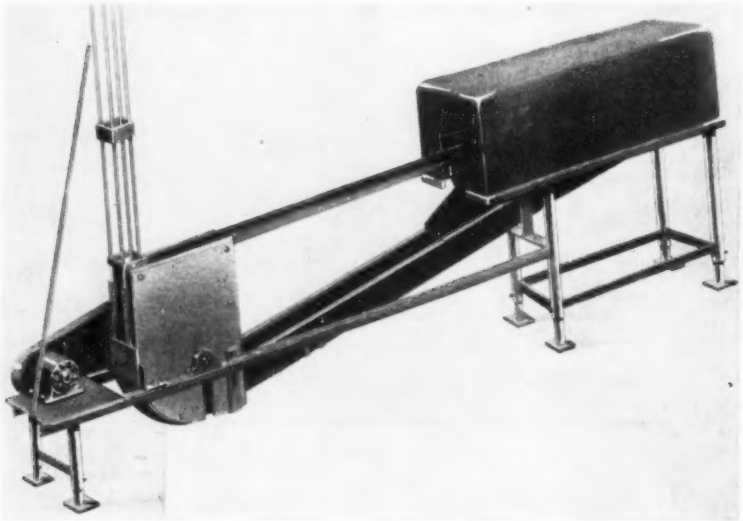
Combination Seed Protectant

BETTER THINGS FOR BETTER LIVING... *THROUGH CHEMISTRY*

What's New?

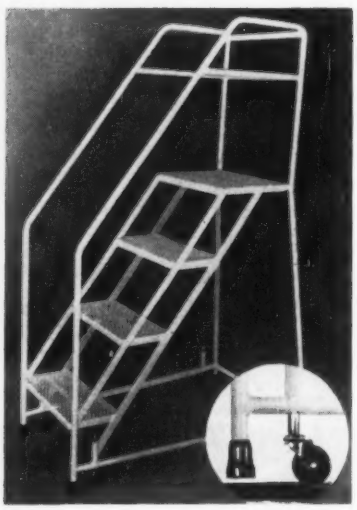
Supplies • Equipment • Trade Literature

Electronic Marked-Can Sorter



Dudley Machinery Corporation, Mountain View, Calif., has recently produced a new electronic sorter for those canners who would like to run several grades of their product through the same cooker at the same time. According to the maker, the machine will separate cans as they are discharged from the cooker and send the mixed cook automatically to multiple labeling and/or casing lines. Each machine can simultaneously direct as many as six mixed grades or products with accuracy.

Industrial Step Ladder Assures Safety

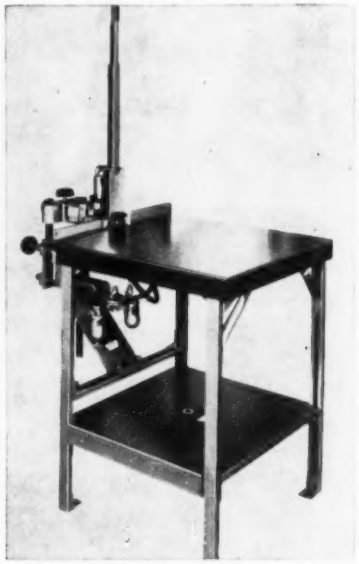


Steps to safety

A new line of all-steel, all-welded industrial stepladders is now offered by Tri-Metal Company, Berwyn, Pa. The ladders have four swivel casters which retract automatically when weight is placed on first step while four rubber-tipped feet engage the floor as the casters retract. The top step is 12 in. deep and large size ladders are equipped with hand rails. Units are made of 7/8-in. O.D. steel pipe and are available in sizes of one to seven steps and in widths ranging from 18 in. to 32 in.

Air-Powered End Stapler

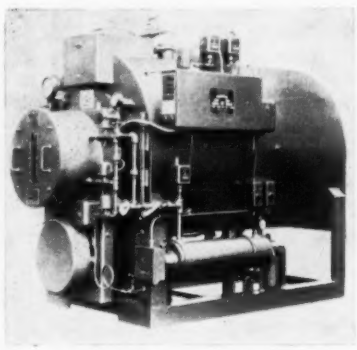
International Staple & Machine Company, Herrin, Ill., is now ready to deliver a new, air-powered end stapler. It has no electrical connections and features a two-cycle air motor with a newly designed mechanical trip. The manufacturer states that the unit is especially designed for end opening cartons, full overlaps, partial overlaps, telescope and other types of cartons. It can be turned to a 90-deg. angle for center-slotted cartons and special applications. Closures made with the new stapler meet all specifications of Rule 41 and parcel post requirements.



No electric power needed

Boiler — Small In Size, High In Capacity

A small boiler, produced to meet conditions where space is limited, has just been placed on the market by Boiler Engineering & Supply Company, Philadelphia. It is 7 ft., 2 in. long; 3 ft. 4 in. wide; and 5 ft., 2 in. high. Clearance of less than 4 ft. is all that is required to remove tubes. It will burn either oil or gas; is forced-draft type; burner fires directly into the water-backed furnace, thus eliminating need of special refractory box lining.



Space saving boiler

(*Continued on Page 41*)

What's New?

(*Continued from Page 40*)

Lightweight Wheels

A line of new lightweight wheels for floor trucks and trailers has been announced by the Nutting Truck & Caster Company, Faribault, Minn.

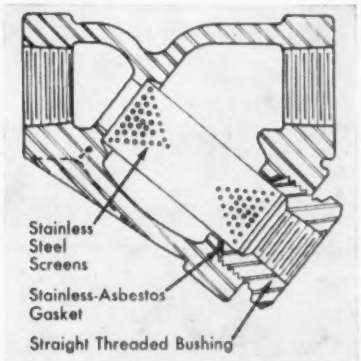
Of aluminum alloy, about 50 per cent lighter than ordinary molded rubber-tired wheels, they meet the demand where lightweight and non-sparking properties are required. Tires are demountable and come in 4-in. to 12-in. diameters. A wide variety of hub lengths and axel sizes are available.

Easily demountable tires

Y-Type Pipe Strainers

Recently introduced by Armstrong Machine Works, Three Rivers, Mich., is the development of six sizes of carbon moly steel strainers. The new pipe strainers are suitable for pressures up to 900 lb., and temperatures to 900 deg. F. Maximum pressure at 100 deg. F. is 1,800 psig.

Strainers are available in 1/2-in. through 2-in. sizes, either screwed or socket welded. Sizes 1-1/4 in. and 2 in. have bolted retainer plates.



Ideal for steam and water lines

(*Continued on Page 44*)

CRCO* "SAY "SEE-AR-CO"

Improved

6 POCKET PEA AND WHOLE KERNEL CORN FILLER

NOW ADDS NEW EFFICIENCY TO YOUR PROCESSING OPERATION

IT'S FAST!
Fills 180 303's per minute, even higher in smaller sizes.
MORE SANITARY!
New 4-leg base easier to clean, adds strength and stability. Drive more accessible.

CRCO 6 POCKET FILLER

fills peas, beans for pork and beans, whole kernel corn, red kidney beans, hominy, dried Limas, mixed vegetables. Delivers a precise measure of fill and sauce or brine to every can.

Write for complete information on CRCO's Improved 6 Pocket Filler

THE BEST OF Everything

CHISHOLM-RYDER CO. INC.
Niagara Falls, New York
FOR THE FOOD PROCESSOR

The Market Place

News of Promotion & Selling

Fibreboard Designs Cutout Carton

An attractive cutout carton containing a sales message and a pricing label was designed by Fibreboard Products, Inc. for Borden's new Thick 'n Thin French dressing. The carton, which folds flat, not only displays the dressing to best advantage, but makes it convenient for the housewife to pick up and place the pair in her market basket.

New Line Of Table Syrups

Hewlett Brothers Company, Salt Lake City, is packing a new line of table syrups in one-pint, bulb-neck bottles. The cinnamon, raspberry and wild blackberry syrups are distributed directly to retail grocers in Utah, Idaho, Nevada, Wyoming, Colorado, Montana and Arizona. Made by Owens-Illinois Glass Company of San Francisco, the bottles are indented below the bulb neck for a sure grip. Metal screw caps, also by Owens-Illinois, have ample room for pricing, while the multicolor labels, printed by Western Lithograph, stimulate taste appeal with a picture of waffles in natural color.

Heinz Markets Strained Egg Yolks

National distribution of strained egg yolks, packed in glass jars, has been announced by H. J. Heinz Company. Heinz expects this new baby food product to aid in meeting important nutritional needs in the diet of infants while serving as another work-saving item for busy mothers.

Each jar contains 3¼ egg yolks. Two level tablespoons of the company's 100 per cent strained egg yolks are reported to equal nutritionally and in content one natural egg yolk.

Apple Butter Features New Cap

A new design for the cap used on Shawnee Springs apple butter product of Braithwaite Brothers, Cross Junction, Va., features a red ripe apple to correspond with the label design. This and the red lettering against the white background, attract attention and identify the product. The cap is manufactured by Crown Cork & Seal Company, Inc.

Fresh Sauerkraut Now Glass-Packed

A new twist-off cap now makes possible the packaging of fresh sauerkraut in eye-appealing glass containers. Manufactured for the R&S Pickle Works, Boston, by the White Cap Company, the cap is used in conjunction with a special finish one-quart jar. Metro Glass Company, Inc., Jersey City, has been selected as one of the manufacturers to supply the container.

Glass Container Ad Highlights Fruits

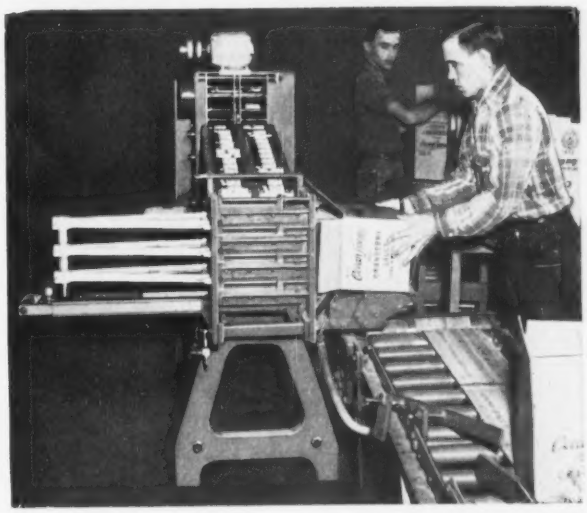
Fruits for salad, colorfully packed in glass jars, are the featured product line in March national advertising of the Glass Container Manufacturers Institute. The second in a series of full-page magazine ads pursues GCMI's design of an eye-filling, full color photograph showing the featured product in daily use, and short simple copy aimed to persuade the housewife to look for this and other fruits packaged in convenient glass containers.

Gerber Offers New "Main Dish"

Another "main dish" product – macaroni, tomato, beef and bacon – is being added to the Gerber junior food line. The word "New" in a flag on the label face will point out the product.

BURT

. . . for PACKERS that PACK PROFITABLY!



BURT "BEATS FLEETING TIME" BECAUSE . . .

* A two-layer case is filled with each stroke!
* Cans are lifted, then *gently* pushed into proper tracks.
* Operator simply places empty case . . . machine automatically fills and discharges it.
* Funnel is cleared with every plunger stroke, minimizing impact.
* *Exclusive* variable speed arranger assures uniform supply. Automatic safety and clearing devices included.

SPEED UP YOUR "LINE" WITH BURT!

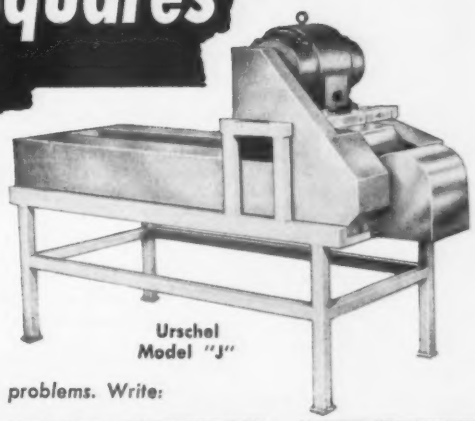
BURT MACHINE CO.
401 E. Oliver Street
Baltimore, Maryland

CUT BROCCOLI, CELERY, CITRUS PEEL, GREENS, PEPPERS, SPINACH

INTO 1/4" 3/8" 1/2" 3/4" 1" Squares

CAPACITIES UP TO 10,000 LBS. PER HOUR

WITH THE URSCHEL MODEL "J" DICER



Urschel Model "J"

Two big advantages for Packers:

1. ***Widest possible range of dice sizes — parts are available for cutting ¼" to 1" squares.***
2. **Widest possible range of products handled.**

Consult with us now about your cutting problems. Write:

FOOD PRECISION HIGH-SPEED CUTTING EQUIPMENT

URSCHEL LABORATORIES INC.
VALPARAISO, INDIANA

manufacturers of precision, high speed cutting equipment for delicate food products

What's New?

(*Continued from Page 41*)

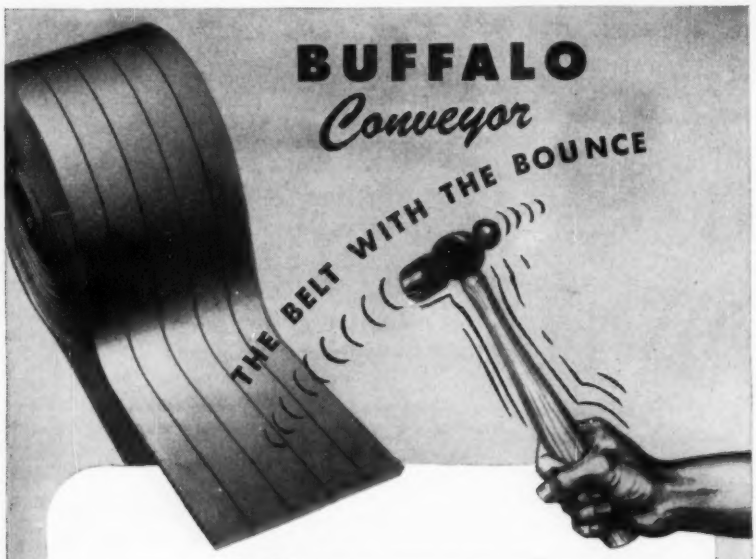
Aluminum Conveyor By Farquhar

The development of the new Ve-Be-Veyor, an aluminum conveyor that handles pieces far in excess of its own weight, has been announced by the conveyor department, A. B. Farquhar Division, Oliver Corporation, York, Pa.

The conveyor has a flanged aluminum channel frame with aluminum cross members of an unusual design.

Staggered, hard maple rollers, with self-lubricating bearings, support a 12-in. wide rubber covered belt that is driven by a power roller chain. It uses a 1/3 horsepower motor with a reversing drum control and power drive, gear reduction unit. Three sizes are available: – 12-ft., 16-ft., and 20-ft.

(*Continued on Page 45*)



...delivers years of extra wear at a fraction of the cost!

Maybe you are one of the persons who doesn't know that our solid-woven COTTON Conveyor belts can take a lot more abuse and LAST LONGER than supposedly stronger, harder, stiffer materials. That's because COTTON has that BUILT-IN BOUNCE that can take a smashing blow from a hammer and make the hammer bounce *but* never leave a bruise on the belt. Our Cotton belts ABSORB IMPACT and AVOID ABRASION because they mold themselves AROUND obstructions and keep on going. PLUS that, you'll find that our belts COST only a FRACTION of what you may be paying for inferior performance. And... Buffalo Belts are available untreated or with SIX SURFACE COATINGS to make them resistant to acids, alkalies, grease, oil, water, heat and other deteriorating elements.

WRITE FOR 14 PAGE MANUAL

on "How to Buy The Correct Belt for Your Conveying Job". Illustrates uses, Maintenance Tips, Sizes, Prices.

BUFFALO WEAVING & BELTING COMPANY

208 CHANDLER STREET BUFFALO 7, NEW YORK

NEW YORK PHILADELPHIA CHICAGO DETROIT LOS ANGELES

(*Continued from Page 36*)

In 1954 a subcommittee of processors' fieldmen, which included research specialists from Oregon State College, began work to develop standards which will become a valuable guide for seed companies and other plant breeders in obtaining strains of Blue Lake beans best suited to mechanized picking.

While it may take years to develop new strains, Mr. Lehman avers that at the present time, it already has been determined that the FM-1 strain of Blue Lake beans is much easier to machine-pick than the Associated 231 strain. The more easily beans can be removed from the vines, the more efficient can the mechanical harvester operate. On the other hand, a six- or seven-time picking, as is necessary with the FM-1, would not be practical for machine picking and, therefore, it would be desirable to develop a strain with the general characteristics of the FM-1, but with the concentrated growth of the 231.

What growers of Blue Lake beans really need, according to Mr. Lehman, is a strain with a vigorous vine and a good root system to resist the pulling effect of the mechanical picker. A minimum of foliage, and with beans of even maturity distributed over the length of the vine, would be another desirable characteristic.

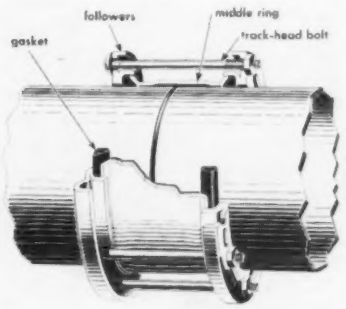
Experiments relating to yard conditions, type of string or wire best suited to withstand machine picking, and other ramifications of mechanical harvesting will be continued.

What's New?

(*Continued from Page 44*)

Abrasion-Resistant Piping

The Allen-Sherman-Hoff Company, Philadelphia, announced the availability of its Asholite pipe with sleeve couplings, and a complete line of piping accessories, for hydraulic or pneumatic materials handling systems.



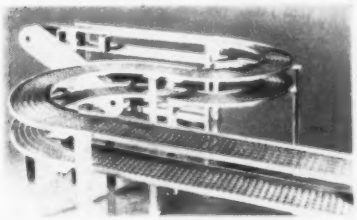
Pipe expedites materials handling.

According to the manufacturers, this piping offers advantages of, (1) high resistance to wearing action of abrasive materials, (2) uniform composition of pipe, (3) true dimensions of pipe diameter and wall thickness, and (4) a simplified coupling arrangement which provides ease of installation and maintenance.

Piping arrangements for materials handling systems are easily made from sections of plain-end pipe joined by a gasketed sleeve coupling, as illustrated.

Low Cost Flexible Belt

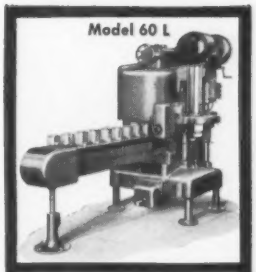
Omniflex is the name of a newly introduced belt designed by Ashworth Brothers, Winchester, Va., to provide a low cost, flexible conveyor system. The new belting will make a

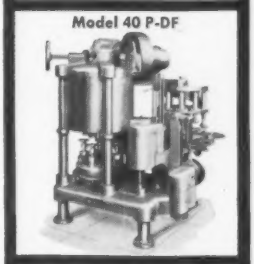


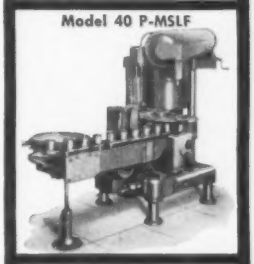
Keeps products moving economically

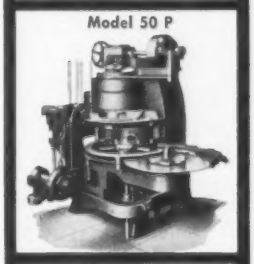
turn within 2-1/2 times its width. It offers a flow conveyor around corners, poles or machines and eliminates transfer plates or dead plate transfers.

(*Continued on Page 46*)









are swinging to

ANGELUS

can closing machines

for lower investment, lower maintenance, higher production

Round can closing equipment has been an Angelus specialty for more than 40 years. Throughout these many years Angelus equipment has been developed to a high degree of efficiency, simplicity and ruggedness that gives you the ultimate in dependable low cost operation. This is why Angelus is the world's largest exporter and the nation's only manufacturer specializing in can closing machines. Angelus machines are in wide demand in areas where maintenance facilities and skilled operators are at a premium . . . where continuous production demands the utmost in dependable operation.

Angelus Automatic Seamers and their wide range of accessories meet can closing requirements for a multitude of products . . . from pop to petroleum, from tuna to tomatoes.

Angelus offers a variety of styles with capacities ranging from 30 to 400 cans per minute.

Write today –
for complete details on models and an Angelus Engineered Application Recommendation.

ANGELUS
Sanitary Can Machine Company
Cable Address "Angelmace" Western Union Code
4900 Pacific Boulevard • Los Angeles 58, Calif.

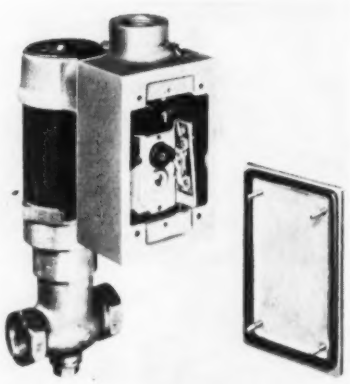
What's New?

(*Continued from Page 45*)

Automatic Valve Control

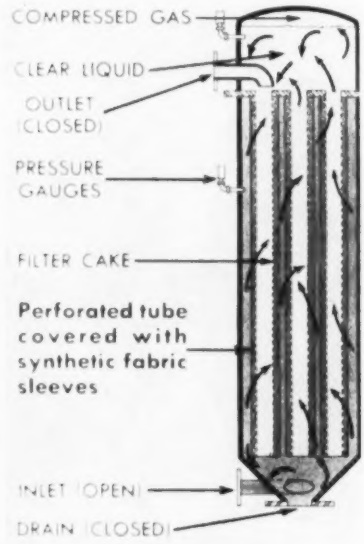
Flow of liquids, gas or air, can be controlled automatically with new timer valves available from Automatic Controls Corporation, Ann Arbor, Mich. Units consist of a solenoid valve and a timer control sealed in a watertight case. They will turn the flow on or off at desired intervals. The timer valve fits all standard pipes, 3/8 in. and larger, and operates on a 110- or 220-volt, 60-cycle current.

Assures perfect timing.



Unusual Tubular Filter

Industrial Filter & Pump Company's unusual tubular filter is useful for any water or chemical purification task. It builds up air pressure at the end of the filtering cycle and uses

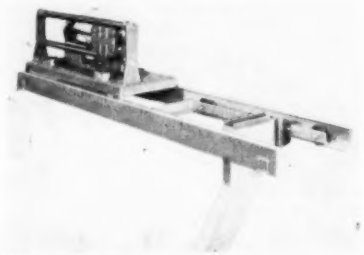


Filtered water not needed

the pressure for a sudden back-surge to clean the filter. The filter shell acts as the pressure chamber and the arrangement of regular valving provides the controls. The Hydra-Shoe, as it is called, eliminates the use of filtered water for cleaning.

Automatic Sampler

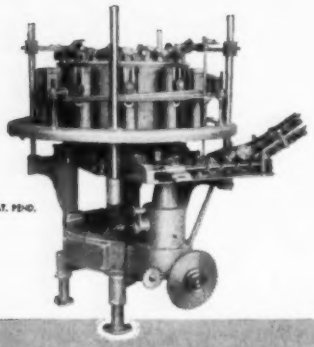
A Denver automatic sampler with end carriage has been placed on the market by the Denver Equipment Company, Denver. It assures accurate sampling in normally inaccessible places by taking the whole of the stream part of the time, thus eliminating errors resulting from variations across the stream. Constant intervals between cuts are maintained to obtain equal representation of the entire length of the stream. Intermittent operation is controlled by a Telechron motor driven time switch which may be set for intervals from 2 to 55 min. in 1-min. increments.



Makes sampling easy and sure

(*Continued on Page 47*)

3 MORE REASONS WHY W. F. & JOHN BARNES CAN *help You* CUT FOOD PROCESSING COSTS

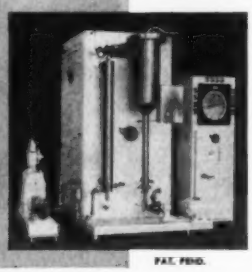


LIBRASCOPE FILLERS
FEATURE HIGH OUTPUT . . .
LOW MAINTENANCE COSTS

PISTON-TYPE (*shown at left: a 12-station model set up to handle dog food*) — A range of standard models are available for a variety of liquids and semi-liquids to meet production requirements from 40 to 1000 containers per minute. Units feature exclusive new Librascope self-cleaning action that prevents build-up of product on valve guides and ports — eliminates frequent cleaning operations. Plunger-type valve design maintains positive closure against leakage, assures correct filling level, and provides longer valve life. Product contacts are 316 stainless steel or non-copper alloy for utmost surgical cleanliness. Manufactured by Librascope, Inc. Exclusive distributor: W. F. & John Barnes Company.

OTHER LIBRASCOPE FILLERS — Include Model G (Gravity), Model GP (Gravity Pocket), and Model PB (Bottom Fill Piston). With 6, 9, 12, 18, 27, or 36 stations.

Designed for Greater Efficiency
NEW GAS GENERATOR
NEW HEAT EXCHANGER



◂**S-I-A GAS GENERATOR** — Compact unit provides accurate control of protective atmospheres in processing and packaging food and other products. Maintains constant, oxygen-free atmosphere to prevent deterioration and spoilage of product. Range of standard models available to meet a variety of needs for bulk or package storing, dehydration, drying, shipping, and metal, glass or plastic packaging. Manufactured by Barmotive Products, Inc. Exclusive Eastern Distributor: W. F. & John Barnes Company.

◂**BARNES ROTO-JET HEAT EXCHANGER** — New heat exchange system utilizing steam injection for sterilizing liquid and semi-liquid products. Purified steam is transferred directly to the product without heat loss, insuring maximum efficiency and economy. Unique control system maintains processing temperatures within ± ½-degree F., and exacting instrumentation affords a balanced product moisture content. Manufactured and sold by W. F. & John Barnes Company.

Write **FOR FREE LITERATURE** — illustrates and describes these profit-making production units.

Builders of Better Machines and Equipment Since 1872
W. F. & JOHN BARNES

FOOD & CONTAINER SECTION

428, S. WATER ST. • ROCKFORD, ILLINOIS

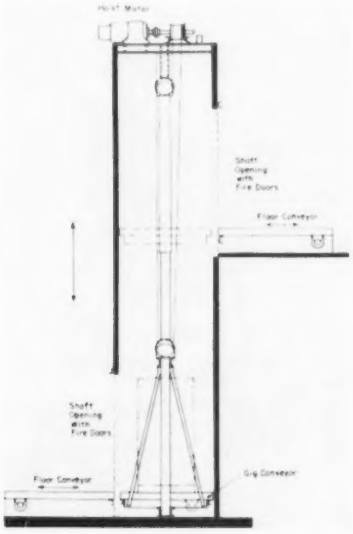
RETORT BASKET LOADERS AND UNLOADERS
DOLE ASEPTIC CANNING EQUIPMENT • UNIVERSAL CASE PACKERS

What's New?

(*Continued from Page 46*)

Interfloor Conveying System

Smooth transfer of large heavy pallets is provided by new interlocking and leveling features of an automatic inter-floor conveyor system announced by the Gifford-Wood Company, Hudson, N. Y. The conveyor moves pallets through 27 conveying steps in 1-1/2 min., according to the company.



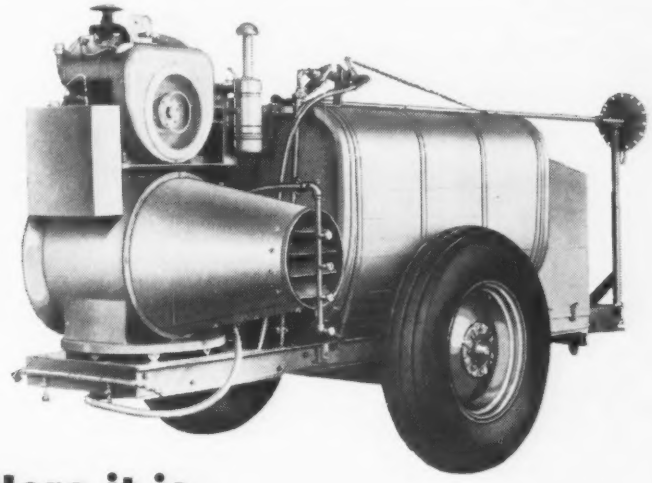
Pallet Eliminator

For rapid handling of cartons and packages without pallets, the Hyster Company, Portland, Ore., has introduced its new "Cart-N-Grab" for 3,000- and 4,000-lb. capacity trucks. Arms on the new device will accommodate packages up to 70-3/4 in. Side shift features are incorporated to prevent spillage or damage, according to the producer.

Petri Throw-Away Dishes

Petri dishes for one-time use have been introduced by the Chicago Apparatus Company. The new plastic dishes eliminate expensive washing and sterilizing for they are less than 9 cents each, which is less than the cost of readying a used dish for use.

The new dishes are made of styrene plastic and are optically clear and scratch-free. They have a heat distortion point of 90 deg. C. and are guaranteed sterile and pyrogen free.



Here it is— The Hardie Jetaire Row Crop Attachment

Comes Complete

Equipped with 2, 26 in. axial fans. The reversible housing can be rotated through 220 degrees by tractor seat controls—sprays on either side. Adjustable vanes provide easy direction control. Delivered ready to run with everything needed for installation on sprayers with either wood or steel tanks. Easily dismounted when not in use. Attractive low price.

Now you can convert your high pressure row crop sprayer to a 2-fan air blast unit. This new Hardie 2-fan Jetaire Row Crop Attachment gives you the same unmatched performance in Row Crop Pest Control as the famous Hardie Jetaire 2-fan Air Blast Row Crop Sprayer. Ask your Hardie dealer to show you this wonderful new unit. Write for catalog.

The Hardie Jetaire is the only 2-fan air blast row crop sprayer. Its performance in big volume row crop pest control has established unmistakably that 2 fans are better than one in row crop spray application. Leading row crop growers all over America are finding new ease, speed, economy and efficiency in pest control with the 2-fan Jetaire. Write for complete data.

HARDIE
PEST CONTROL EQUIPMENT
• SOLD AND SERVICED

The Hardie Manufacturing Company, Hudson, Michigan
3825 Santa Fe Ave., Los Angeles 58, California
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Please send Jetaire Catalog ☐
Have salesman call ☐

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Address_____

City_____ State_____

Freezing News

Promotion • Selling • Research

Examining American Can Company's composite container for frozen foods at the recent National Frozen Food convention in New York are (left to right) Richard C. Poole, division packaging engineer, and William H. Enzie, manager of packaging research, of the Birds Eye Division of General Foods Corporation, White Plains, N. Y.; and James W. Wardell, Canco Metropolitan district sales manager.

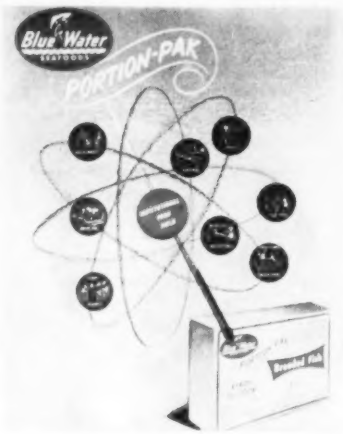
New Food Freezer Is Versatile

Development of a continuous food freezer which can freeze thousands of wrapped food packages an hour, was announced at the National Frozen Food convention in New York.

Produced by the York Corporation and incorporating mechanized conveyor equipment manufactured by Union Steel Products Company, Albion, Mich., the York-Union continuous food freezer is reportedly the first completely automatic equipment able to freeze foods of varying types and sizes simultaneously.

The new freezer can be kept at a uniform temperature of -30 deg. F., or lower, if desired, by means of a York multi-stage compression system which refrigerates the freezer's coils to a temperature of -40 deg. F., or below. Six propeller fans blow air through vertical banks of coils, and a special air distribution system keeps the temperature uniform throughout the freezing enclosure.

Portion-Pak Brochure Available



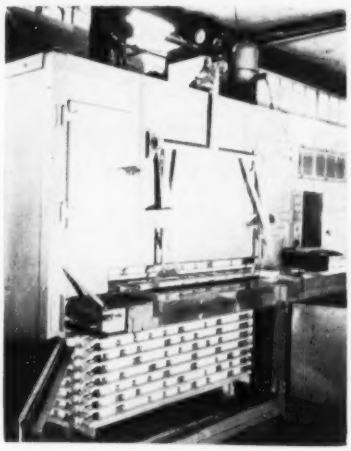
Fishery Products, Incorporated, Cleveland, packer of Blue Water frozen seafood, is featuring an attractive new brochure describing portion control of institutional packs of frozen breaded fish.

The brochure explains the advantages of Blue Water portion-pak breaded fish, emphasizing accurate portion cost control; elimination of all preparation labor costs; absence of waste, made possible by the process of "single freezing"; and accurate inventory control.

Premier Enters Frozen Food Field

Francis H. Leggett Company has entered the frozen food field with the introduction of a 6-oz. package of concentrated frozen fresh orange juice under its Premier label. The orange juice, packed in cemented sideseam American Can Company containers that permit full can lithography, contains 6 fluid oz.

Amerio System Is Automatic, Portable



A new development in frozen food processing is the portable double pressure plate freezer by Amerio Contact Plate Freezers, Incorporated.

According to the company, the freezer provides for continuous operation, is automatically loaded from the overwrap machines, frozen under pressure, and automatically discharged for casing. The freezer is entirely portable and can be incorporated into any floor plan that may be changed from time to time. Maximum head room required is about 13 ft. Floor space occupied by the freezer is approximately 7 ft. x 10 ft.

Worried about fragmentation?

"Cootie" courtesy of W. H. Schaper Mfg. Co.

get

DIVERSIDE

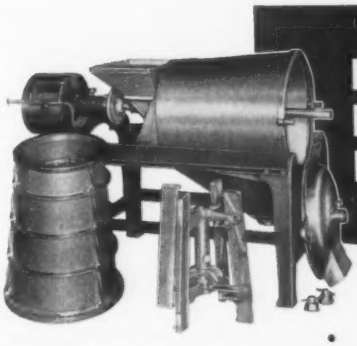
- Fastest, surest kill for all insects . . . roaches, ants, flies, etc.
- Superfine mist stays suspended in air for longer-lasting kill power
- Leaves no greasy film
- Non-toxic . . . contains no DDT

Order DIVERSIDE today from your Diversey D-Man

THE DIVERSEY CORPORATION 1820 Roscoe Street Chicago 13, Illinois

DIVERSEY

DIVERSIDE



INDIANA E-Z ADJUST PULPER

A simple turn of the adjusting wheel provides any degree of pomace you want . . . wet or dry . . . while the pulper is in operation! Wheel changes clearance between paddles and screen *instantly*.

Built for heavy duty, peak load service with a minimum of upkeep. Capacities up to 40 tons per hour. All parts easily accessible for thorough cleaning. For use with tomatoes, pumpkin, sweet potatoes, berries and all kinds of fruit. Ideal for baby foods.

Make 1956 your modernization year!

the only pulper you can adjust INSTANTLY for quick, POSITIVE quality control

F. H. LANGSENKAMP CO.

227 East South St.
Indianapolis 4,
Indiana

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Indianapolis Miss Wins 24th Annual Cherry Pie Baking Crown

Annette Hunt, 17-year-old senior at Indianapolis' Ben Davis High School, won fame and fortune in the 24th annual National Cherry Pie Baking Contest. Annette's cherry pie, adjudged the best by a panel of home economists, food editors and youth organization editors, brought her a $500 home economics scholarship, a General Electric range and a trip to New York City and Washington, D. C.

Miss Hunt competed with state winners from 47 states, Hawaii and Canada. More than 100,000 girls and boys entered the preliminaries from coast to coast, making the event the largest amateur contest held annually in the United States. The competition is sponsored by the National Red Cherry Institute, Chicago, which represents the processors and growers from the major cherry producing areas of the nation. This year for the first time, the contest was held in the Grand Ballroom of the Sheraton Hotel, Chicago.

The contestants, mostly members of 4-H or Future Homemakers of America, traveled to the main event in Chicago with chaperons of their own choosing. Before donning their aprons and caps for the bake-down, the girls shopped and saw the sights of Chicago.

The 1956 champion was picked on the basis of baking technique, quality of pie and personal character. At school Annette ranks seventh in her class of 250. Upon graduation she plans to study music and home economics at Indiana State Teachers College. A 4-H member for eight years, she has done championship work in baking, clothing, handicraft, electric projects and junior leadership. She is an accomplished pianist and both studies and teaches piano.

Four regional winners of the pie baking bee were Denise Amyot, Quebec City, Que., Canada; Twila Hokanson, Kelso, Wash.; Georgine Ness, Canton, Ohio; and Virginia Cox, Hollywood, Miss. Each girl received a $200 scholarship and the range on which her pie was baked.

Reserve winners receiving $75 were Leona Slowinski, Wisconsin; Wanda Renegar, Alabama; Zabette Calhoun, Oregon; and Judy Pearl, New York.

Annette Hunt, 17-year-old senior from Indianapolis' Ben Davis High School, shows Everett Wiles, Bangor, Michigan cherry grower and chairman of the 24th National Cherry Pie Baking Contest, her winning cherry pie.

All on canning pickling preserving

1 Charts, tables and formulas are prepared to be taken directly into the quality control laboratory. No extra computation or seeking further details from other sources will be necessary. In preparing specialty products, details are presented on the type of ingredients used, the quantity necessary for a given end volume and the necessary operations to make the combination of ingredients a high quality pack.

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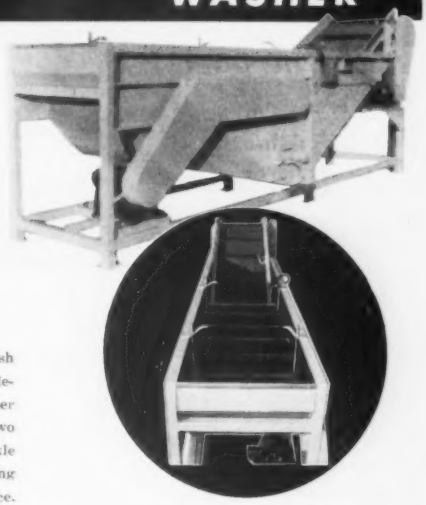

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Florasynth Fellowship Awarded

The 1955 Florasynth Fellowship Award was recently made at the Oregon Section meeting of the Institute of Food Technologists at Salem, Ore. Recipient of the annual award was Ian J. Tinsley, Oregon State College student.

The award was made by Eliot Friberg, western divisional manager, Florasynth Laboratories, on behalf of William Lakritz, president of Florasynth.

Eliot Friberg, Florasynth Laboratories, presents annual Florsynth Fellowship Award to Ian J. Tinsley.

Man-Of-The-Month

Vincent A. Davi

President

Western California Canners

From a humble start as an 11-year old boy in a California cannery to mayor of his native city is the amazing story of Vincent A. Davi. In fact, Horatio Alger, in his heyday, could not have produced a more interesting story of a boy on his way to success.

He was born October 1, 1904, in Black Diamond, Calif., then a mining and fishing village, which now has grown into the industrial center of Pittsburg, Calif.

Vince, as he is known to thousands, is the son of Italian immigrant parents who, unfortunately, did not live to see their son become mayor of his city and a West Coast industrial leader.

Because of family circumstances, Vince Davi was introduced to the work-a-day world at a very early age. His first job was with the F. E. Booth Company cannery in his home town. In the beginning he worked after school and during vacations later he became a full-time employee.

His rise from office boy to foreman of the fish smoking department, in a comparatively short time, was an early indication of his ability and perseverance. He was a cannery foreman before most boys his age have a definite idea of what they want for a career.

Important Decision

It was about this time that he decided that the canning business was going to be his life's work. With this decision he set out to learn everything possible about the industry. He progressed through fish, fruit and vegetable canning operations.

His knowledge of Italian was of great benefit to him at this stage of his career. Most of the employees were of Italian extraction, who understood only their native tongue. Mr. Davi's ability to speak fluent Italian and his inborn knowledge of the people stamped him a natural leader and he served as a rotating foreman in several departments.

At the age of 29 Vince Davi decided to go into business for himself, and in 1933 he leased a small fruit cannery in Walnut Creek, Calif., a short distance from Pittsburg. Along with his brothers, Bert and Neno, he operated the plant with an initial staff of 50 people.

Growth of the enterprise made it necessary to expand. The following year he acquired a 10-acre site near Antioch, a neighboring city closer to his home in Pittsburg. There he established the present Western California Canners, which is now rated as the second largest asparagus processing plant in California, with a peak employment load of approximately 1,200 workers. A large percentage of all tomatoes processed in California also go through the Western California Canners plant.

Farming Interests

He not only maintains an up-to-the-minute touch with the industry itself but he has taken a personal interest in the farming phase of the food processing business. Proof of this lies in the fact that he has acquired 6,000 acres of farm land in his own name plus an additional 5,000 acres of leased properties. In these areas on Boulding Island and in the San Joaquin county delta region are grown asparagus, celery, potatoes, tomatoes, sugar beets, carrots, sweet corn, field corn, wheat and barley.

Only asparagus, tomatoes and carrots are used by Mr. Davi in his own cannery. Other produce is shipped to the fresh markets throughout the United States.

While his success in business has been nothing short of phenomenal, tragedy has marked his personal life. He married his childhood sweetheart, the former Stella Enea, in 1933. In 1946, as his climb up the ladder of success was proceeding at an accelerated pace, his wife died. Friends close to him say that this event made him work even harder for the future. He wrapped himself in his work more than ever, as is sometimes the case in such instances. He found solace in his work and absorbed himself in his various business ventures. They include, in addition to his cannery, a chain of four theatres, operation of the Hotel Los Medanos in Pittsburg, and the office of president of the California Perlite Company, a lightweight aggregate firm with a quarry and crushing plant in San Bernardino, Calif.

Since 1940 Mr. Davi has been active as a civic leader in his home town. He has been elected city councilman for his fourth term and twice as mayor, which office he now holds.

Still affiliated with him in his cannery business are his four brothers. Horace and Bert serve as vice president and secretary-treasurer respectively, while Neno and Joseph hold close affiliations.

With the enlarging of his interests, Vince Davi's reputation also spread. He is now a director of the Canners League of California, the National Canners Association, California Processors & Growers Association and the California Asparagus Growers Association. He also is a member of the Athens Club of Oakland, Union Press Club of San Francisco, Elks, Sons of Italy, Moose, Young Mens Institute, Pittsburg Civic Club and Italian-Catholic Federation.

Although his enterprises are varied and demanding, Vince Davi's primary interest remains in the canning business. At the cannery he wears work clothes similar to those of his employees in the plant and often steps into any job as he passes to converse with his workers.

High Honor

One of the highest honors awarded by the Italian government – The Star of Solidarity – was recently bestowed upon Vincent A. Davi. Actual award of the honor was made by Pierluigi Alvera, Italian consul general of San Francisco, at the largest public testimonial dinner ever sponsored in Pittsburg, Calif. Among the 700 guests present was Goodwin J. Knight, governor of the state, and many other celebrities and friends of the recipient. The Star has been awarded to only 11 Californians and approximately 100 residents of the United States. It signifies recognition of business and political success and is bestowed by the Italian government as a citation of good will.

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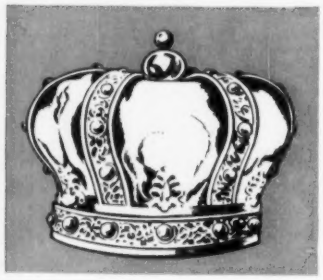

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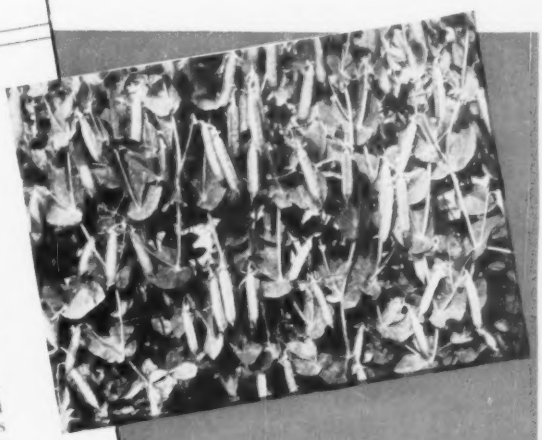

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